

**Reproductive system**



**STD/HIV/AIDS**

**Sexual Abuse**



**Alcohol Abuse**

**Nutrition**

# **Teacher Training Manual**

**Communication skills**



**Responsible Behaviour**



**Assertiveness**



**Self Esteem**

**Developed & compiled by  
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## TEACHER TRAINING MANUAL

### **INTEGRATION OF SEXUALITY EDUCATION, LIFE SKILLS EDUCATION, AWARENESS OF SUBSTANCE ABUSE AND HIV/AIDS INTO THE FORMAL SCHOOL SYSTEM**

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## **CHAPTER - I**

### **Introduction – The need**

The National Council for Education Research and Training (NCERT) recognized the need for sex education in elementary and secondary school levels way back in 1988, stating that this would help the youth to develop a healthy attitude towards members of the opposite sex and also help prevent the rise in the incidence of sexually transmitted diseases.

### **Our Children Are Vulnerable !**

It is established that youth growing up in this society are vulnerable: a survey conducted by NIMHANS in Bangalore in 1994 - 95 found that one in every six girls interviewed had been exposed to sexual abuse in one form or another. This and several other studies conducted in India have revealed sky-rocketing incidences of child sexual abuse and increasing numbers of pregnancy, suicide, substance abuse, HIV/AIDS and other STDs among adolescents. There are 40 million new STD cases every year, the maximum in the age group of 16 to 40 years. One study in a private hospital in Delhi reported 16 % out of 362 STD cases were below 14 years of age.

A country - wide survey conducted by a core research team of the NSS under the leadership of Dr. Bhagbanprasad, Director UTA, and Ms. Carol Larivee of the WHO, found that 20- 25 % of HIV infections are in the age range of 10 to 24.

Youth have been found to be most prone to AIDS because

1. they perceive themselves as invulnerable;
2. they take risks;
3. they hear about sex from their peers and pornographic literature;
4. they indulge in drug abuse;
5. the perception of sexuality differs throughout India.

Even as the need to banish ignorance about AIDS has become imperative, some teachers, as well as parents say “Exposing children to sex education would only shred the conservative social fabric of the nation and would encourage promiscuity. Indian society is not yet ready for this sort of change....” “Telling children about drugs will induce them to use drugs”.

Such a blinkered vision overlooks the fact that the cultural invasion of the country through satellite television, films and literature has already “wreaked havoc” on impressionable young minds, resulting in wrong perceptions on various issues. Since it is impossible to hide children from this pressured environment, we must empower them to survive in it.

Our society does not discuss sex openly and in fact gives very mixed messages about sex - from the provocative and exploitative in the media, to the embarrassed silence of adults when confronted with questions about sex, reproduction etc.. Even as adults, we are unable to discuss sexual and related matters and therefore incapable of making responsible decisions and choices.

What sex education can actually do is help these kids to clear misconceptions about sex and sexuality. Proper guidance can not only assist in their developing a healthy attitude towards sex, but can also promote a more health conscious and responsible youth.

**It is significant to mention here that a recent World Health Organization study reveals that contrary to popular belief, sex education programs decrease rather than increase promiscuity among youth. The WHO found that these programs actually result in the deferment of the start of sexual activity, encourage youth to have fewer partners, and motivate them to use prophylactic.**

We believe that efforts to confront this sorry scene must begin early. The groundwork must be laid by early childhood teachers, in cooperation with parents. At every stage of development children need to learn **age appropriate** information, and **culture appropriate** attitudes and life skills.

Adolescence Education includes reproductive system & reproductive health, sex and sexuality, STDs, HIV/AIDS, pubertal changes, sexual abuse, gender bias, substance abuse, blood safety etc., and cannot be

done in isolation in Biology in High School. The teacher should take into account vocabulary, maturity level, etc. of the student. There must be a gradation from what the child already knows to developing and reinforcing new concepts.

More importantly, values and life skills also have to be imparted to give the child a holistic education. Our aim should be towards developing the personality of the child so that he / she is able to not only identify risk behaviour but also actively say "NO" to any or all forms of risk behaviour. Our duty extends beyond the textbook and the classroom, into making tomorrow's generation a strong and self-reliant one.

There are very few resources to help teachers and parents deal with these issues in ways that promote age - appropriate learning in the vital area of development.

Dr.Latha Jagannathan & her team of experts at Bangalore Medical Services Trust have developed and designed a training kit and resource package to help remedy that situation, this kit may be used by teacher training institutions, in-service teachers, as well as parents.

***The kit consists of :***

- a. A teacher's manual which has the theoretical inputs on various subjects, detailing of topics to ensure that the teacher has the required information.
- b. The work book with user-friendly teaching methodologies, teaching aids, activities, participatory games, assignments, exercises, project work etc., for the students which can be plugged into the existing syllabus. Every effort has been made to ensure that there is no increase in the burden on the teacher or the pupils.

The same topics will have to be covered at different levels in a phased manner. So the class / classes which the subject can be dealt with is suggested . eg.

***Body Parts as part of Sex & Sexuality***- From class 1 or earlier, but sexual act from class 8.

***Child Sexual Abuse*** - From Class 1 or earlier

***Substance Abuse*** - From Class 5 upwards Class 6 - Alcohol and Tobacco, Class 8 - Other Drugs.

Class 6 to 9 - How to withstand Peer pressure, Media Influence etc.

***Puberty - Class 5 Reproductive System & Human Reproduction*** - Class 6. ( It is important that this subject is dealt with in its entirety by class 7 because many students, especially girls leave school after Class 7).

## CHAPTER II

# SEX & SEXUALITY

**Sexuality can be described as:**

**Self esteem:** the way people feel about themselves as men or women.

**Body image:** the way they feel about their bodies and the way they use them

**Social roles:** the roles they take on and expectations other people have of them.

**Relationships:** the way in which they relate to others.

The World Health Organization ( WHO ) defines sexual health as: the integration of physical, emotional, intellectual and social aspects of sexuality in a way that positively enriches and promotes personality, communication and love.

a. Sexuality is not just about ‘sex’ or ‘sexual intercourse’ or ‘reproduction’. It is the entire self as girl or boy or man or woman.....including “sexual thoughts, experiences, learning, ideas, values, and imaginings, as these have to do with being male or female” and such issues as self- esteem, self expression, caring for others, and cultural values.

b. Sexuality includes one’s **Gender identity:** the sense that one is male or female. Messages begin at birth with the announcement, “It’s a boy!” or “It’s a girl!” By the time they are 2 ½ or 3, children have a clear idea what gender they are. Sexuality also includes **Gender role:** the idea of how a person should behave because they are male or female. Children learn what their particular society expects of them because they are a boy or a girl and will grow up to be a man or a woman. In recent years, ideas of appropriate role behaviour have been changing. For example an increasing number of women now work outside the home and some men have taken on more household responsibilities. Ideas of masculinity and femininity are different in different societies and in different times in a society.

c. Sexuality is a basic part of who we are as a person and affects how we feel about ourselves and all our relationship with others.

d. Children are learning about sexuality whenever they receive **messages about being male or female**, about the worth of their own bodies, about families, about society. We have no choice about whether to teach about sexuality. We only choose how to teach: whether we are conscious about the messages we are giving and whether we are open and positive so that children will feel comfortable with their bodies, proud about being a boy or a girl, and comfortable with adults who are willing to answer their questions.

Sexuality minorities come from many walks of life, many social, economic, cultural, and linguistic groups. They are always among us – as our brothers, sisters, doctors, lawyers, teachers, even parents ! Our cultural silence on the topic of sexuality forces many people to suppress their natural inclinations and live lies in unhappy marriages, dysfunctional families. Some, tragically, even commit suicide, because of homophobic societal pressures.

Sexuality minorities of various kinds (gays, lesbians, bisexuals, etc.) have always been part of our history and culture, just like any other. Sexuality – minorities should be free to live healthy lives, build meaningful relationships, be valued as human beings, and productive members of society.

Alternative sexuality is not just about having alternative sex. It is very importantly, about quality of life. It is about living true to one’s own self, compassionate and loving towards oneself and others, freeing oneself from internalized, oppressive phobias to help others free themselves.

## Stages of Sexual Development:

### **Newborn to 18 months:**

Begins to develop gender identity (own sense of being male or female).  
Begins to develop gender role (idea of how males and females behave).  
Learns to value self through nurturing body contact.

### **18 Months to 3 years:**

Develops many important attitudes about gender & sex from parents and other adults.  
Learns "language" for genitals and other body functions.  
Receives many "messages" from parents and other caregivers:  
use of euphemisms for genitals may lead to confusion  
Continued need for body contact.

### **3 to 4 years:**

Is certain about own gender.  
Develops a sense of what's considered acceptable behaviour.  
Feels conflict between wanting to be separate from caregivers and wanting closeness.  
Is curious about where babies come from.  
Explores sexuality through play with dolls and peers.  
Is curious about differences in boys and girls bodies.

### **5 to 6 years:**

Begins to measure self against older children and adults.  
Models adult behaviour.  
Explores adult relationships, by playing "being" a mother or father.  
Is curious about how babies are made.  
Learns about limits, privacy and manners.  
Is able to learn to "say no".  
Needs body contact, but usually less than previously.  
Learns personal responsibility for welfare of own body.

### **Certain terms defined:**

**The Sex Drive** is a natural aspect of life that needs to be both understood and controlled as a meaningful and respectable part of life.

The sexual and reproductive systems are related but not the same.  
Sexual responsiveness exists throughout life.  
The sexual response system of males and females is somewhat different.  
The female response is often slower to begin but lasts longer.  
The male response tends to be quicker but of shorter duration.  
Therefore simultaneous orgasm during sexual intercourse is exceptional.  
Boys may be more responsive to physical stimuli.  
Girls may be more responsive to emotional stimuli.

Sexual maturity is the capacity to love, mate, reproduce and care for the young. It is an important factor in the partnership between man and woman; sharing interests and ideas, mutual acceptance of responsibilities, self-realization, mutual respect, and love are necessary for a happy family life.

A person matures sexually years before he/she can establish a home, and, according to social standard, gives expression to his sexual impulses and desires. He is expected to conform to the conventions within the culture. This means that the sex drive must be controlled if it is to become a positive force in the development of a positive personality.

**Sexuality develops and is affected by our environment from birth to death.**

**All Sexual Activity will be affected by:**

Family  
Peers  
Religion  
Customs  
Economics  
Media  
School  
Science  
Law  
Self esteem  
Communication skills  
Decision- Making skills

**Sexual Decision Making will involve:**

Whether or not to be sexually active  
Timing of first sexual encounter  
Type of sexual activity  
Choosing a partner/s  
Gender of sexual partner/s  
Use of contraception  
Use of safer sex  
Coping with pregnancy and childbirth  
HIV/ AIDS - STDs.

**Sexual intercourse:**

1. In **Penetrative Vaginal Intercourse**, the penis is inserted into the vagina. During sexual climax, the semen spurts out and is deposited in the vagina. The sperm in the semen then travel upwards into the uterus and then the fallopian tubes where fertilization takes place. Vaginal fluid lubricates the vagina to facilitate sexual intercourse.

There are other types of sexual intercourse:

2. In **Penetrative Anal Intercourse**, the penis is inserted into the anus of another male (in homosexuals), or a female. Being a smaller passage, external lubricants may have to be used to facilitate anal intercourse; even then there may be tears and injuries to the anal membrane.
3. In **Penetrative Oral Intercourse**, the penis is inserted into the mouth. Many forms of sexual expression exist in every culture even if some cultures do not recognize them. Individuals do not fit into a sexual category. Sexual expression is dynamic; it changes over an individual's lifetime and responds to the environment in which people live.

**Sexual orientation:**

**Heterosexuality** is attraction towards, and / or indulgence in sexual activity with, partners of only the biologically opposite gender.

Any sexual orientation apart from heterosexual orientation may be termed as an **Alternative orientation**. It is not necessarily an aberrant or deviant expression of one's sexuality. No one knows definitely why some people develop such alternate preferences.

Those who express their sexuality in non - heterosexual ways may suffer from social attitudes and stigmas. Many societies still recognize and approve only of certain forms of sexual expression. They may find it difficult to find others with whom they can discuss how they are feeling. They may be frightened about people's reactions. Taking the opportunity to discuss general cultural attitudes toward sexual behaviour allows people to begin to accept sexual differences.

**Homosexuality** is attraction towards, and / or indulgence in sexual activity with partners of the same biological gender as oneself. Homosexuals in India are forced into 'arranged marriages' which are disastrous both for the gay and the 'straight' partners in such 'couples'. A paucity of social support systems leads to broken relationships, promiscuity, lowered self-esteem and decreased productivity. There are hundreds or thousands of self – identified gay men in India today and lesbian women. In fact homosexuals, like elsewhere in the world 5% of our population

**Bisexuality** - when men and women who are attracted to and seek sexual relationships with members of their own as well as of opposite gender.

**Transvestitism** - when men and women enjoy and often gain sexual satisfaction from dressing in clothes of the opposite gender. This is called cross dressing. Transvestitism is not specific to any one form of sexual orientation.

There are other deviant forms of sexual behaviour, classified under **Paraphilia**.

(‘Para’ means ‘beyond’, and ‘philia’ means ‘love’. This includes Fetishism, Zoophilia, Paedophilia, Exhibitionism, Voyeurism, Sexual Masochism, Sexual Sadism, and others. They are more common among males):

**Fetishism:** the condition in which a person is dependent on a talisman or fetish object, substance, or part of the body in order to achieve sexual satisfaction.

**Zoophilia:** the condition of being responsive to/ wanting sexual activity with an animal. Also known as Bestiality.

**Paedophilia:** the condition in which an adult is responsive to / dependent on the imaginary or actual sexual activity with a pre- pubescent / early pubescent boy / girl..

**Exhibitionism:** when a person derives pleasure out of exposing their genitals, and thereby shocking others.

**Voyeurism:** the desire to observe the genitals of others / watch sexual intercourse..

**Masochism:** when there is a desire to punish / humiliate oneself.

**Sadism:** when there is a desire to punish / humiliate the partner.

**Necrophilia:** gratification is obtained by indulging in sexual activity with a corpse

**Homophobia:** An irrational hatred and / or fear of homosexuals

- ◆ **Transsexual versus Transvestite** - A transsexual is one who strongly believes that he / she belongs to the opposite gender. A Transvestite is one who derives sexual pleasure by wearing clothes of the opposite gender
- ◆ **Hermaphrodites** are individuals in whom sex organs and sexual characteristics of both males and females are present in varying degrees. Their gender is, therefore, difficult to determine
- ◆ **Eunuchs-** are castrated males who have had their testicles removed prior to puberty so that the secondary sexual characteristics do not develop.

#### **Normality: What is Normal ?**

That which is: Statistically most common?

Natural and therefore healthy?

Morally correct?

Not harmful?

“**Normal**” in the context of sexual orientation especially, will not fit any of the above. Behaviour is largely voluntary, under the control of the individual.

The sexual drive in adolescence is extremely strong.

Feelings (emotions) are involuntary, not under the control of the individual.

How many of us or the so called “Normal” people have any of the “Abnormal’ leanings and to what degree is not known.

## CHAPTER III

### CHILD ABUSE

#### Emotional Abuse:

Verbally or otherwise damaging the child's mental and emotional health.

*Physical Indicators* : Speech Disorders, Lag in Physical Development, failure to thrive.

*Behavioral Indicators* : habit disorders, conduct disorders, neurotic traits, behavioral extremes, overly adaptive behaviour, developmental lag, attempted suicide.

#### Physical Abuse:

Committing an act that harms a child physically.

*Physical Indicators* : Unexplained bruises or welts, unexplained burns, unexplained fractures, unexplained lacerations or abrasions.

*Behavioral Indicators* : Wary of adult contact, apprehensive when other children cry, frightened of parents, afraid to go home, reports injury by parents.

#### Child Sexual Abuse:

**Sexual abuse** is defined as a verbal or physical behaviour by one person (perpetrator) towards another (victim) which is considered in their culture to be significantly upsetting, demeaning and harmful and or traumatic.

*Child Sexual Abuse is - Being tricked or forced, into any form of penetrative or non-penetrative sexual act - e.g. secret touching of a child's or the abuser's private parts under or through clothing, any contact or exchange between a child and an adult or a significantly older child in which the child ( victim) is being used for his / her sexual stimulation and / or sexual gratification.*

*It may also be defined as any sexual contact with a child under a specific age (legally 16 years) - incapable of consent; indirectly through pornography or voyeurism etc. or directly penetrative, oral, anal or vaginal intercourse or non-penetrative acts.*

**Forms of Sexual Abuse :** Sexual Abuse is not confined to 'rape'. Any form of abusive behaviour expressed through language (sexual comments), body exposure and / or body contact, that may be accompanied by other forms of abuse falls into this category. E.g. fondling, touching , rubbing, kissing, squeezing or holding breasts or genitals, pinching the buttocks, making the child watch / read pornographic material.

**Degrees of abuse vary:** and could be one, some or all of the following:

Exhibitionism, Molestation, Acute Assaultive Intercourse (rape), and Chronic Non- Assaultive Intercourse (where the child ceases to resist because of the regularity and degree of violence over a period of time).

**Often the offense starts as an innocuous, affectionate gesture** which is acceptable in the society. E.g. Kissing, stroking, hugging, cuddling, making the child sit on ones lap and so on and then becomes increasingly intimate and sexual. Sometimes going on to penetrative intercourse and sometimes stopping just short of it because the abuser is afraid of leaving obvious signs of abuse.

**Most often the abuser is a person very close to the child** whom he / she trusts, loves and respects. Easy accessibility to the child, opportunities to be alone and intimate with the child and a close relationship between the abuser and victim play a major part in the initiation and continuation of child sexual abuse.

Rarely, if the child is lucky, the abuse stops after the first time. But **most often it becomes chronic because the child is powerless to stop it and is unable to disclose because of a variety of reasons**

**including fear, shame, guilt etc. Even if the child discloses, usually disclosure is met with disbelief and dismissal.**

### **Examples of Child Sexual Abuse :-**

1. Sita is a seven year old girl. She is very attached to her grandparents and spends a lot of time with them. Her grandfather now holds her on his lap for long periods and strokes her legs and inner thighs. Sita can feel his erection in her back sometimes. She does not understand what is happening but feels uncomfortable and hesitant to sit in his lap. However because she loves him so much she allows him to hold and stroke her. Sometimes he makes her touch his penis through his clothes but in a way that she never really understands what is happening. However the feeling of discomfort lingers. The grandfather has never touched her vagina nor has he shown her his penis. **Is he sexually abusing Sita ? YES.**
2. Jyoti is three years younger to her brother who began feeling her developing body when she turned 12. Usually at night when she was asleep, he would come and touch her breasts, stomach and thighs on some pretext. Sometimes she woke up with a hand between her legs only to discover her brother lying next to her. Jyoti began to protest but was scared to tell her parents because her brother would act very 'normal' and proper during the day. She was scared of being disbelieved. She often wondered if she had imagined the whole thing. This continued for many years and even though it never went beyond touching, his presence began to scare and depress her. The subtlety of his touching left her angry and helpless and she became a very introverted and awkward girl. She began to dislike her body and hated touching herself even while bathing. **Was Jyoti sexually abused ? YES.**
3. Kamini is a teenager who has recurrent nightmares which leave her exhausted and disturbed for weeks. She sees herself in a dark room with a wall which is lit up. A large and frightening hand holds on to her tightly. On the lit wall there are images of naked people - men, women, children. They are doing things Kamini does not understand. The room seems to fill up with a wet, sticky liquid which she can feel on her hands as well. She wants to run away from the room but when she turns to free her hand she sees that the hand is her uncle's. She screams and wakes up. Kamini cannot connect this nightmare with her general fear of men and her confused responses to her uncle. She finally sees her psychotherapist who through hypnosis discovers that Kamini was subjected to pornographic material by her uncle at the age of five. He made her watch the films and even though he held on to her hand he never touched her body elsewhere. Often he ejaculated while Kamini was still in the room. Kamini had blocked the memory of that incident which has now turned into nightmares. **Was Kamini sexually abused ? YES.**

### **Signs of Abuse (for the teacher / parents to recognize):**

#### **In School :-**

- \* depression, anxiety, withdrawal
- \* difficulty in concentrating at school,
- \* poor hygiene
- \* poor communication skills
- \* a change in attitude towards / performance at school
- \* frequent tardiness / absences
- \* fear of parents, becomes apprehensive when other children cry.
- \* an unwillingness to go home, early arrival and late departure from school

#### **At Home :-**

- \* a child who treats ALL people the same, either trusting / mistrusting EVERYONE
- \* who is hyperactive, has a short attention span, nervous habits, temper tantrums, always preoccupied and not involved in the activity around him / her
- \* excessively shy, lacking "normal" curiosity
- \* anxiously attentive to adults, TOO willing to please and do as they ask
- \* frequent complaints about a variety of minor ailments / physical pain \* changes in sleep patterns
- \* unusual appetite- excessive eating / hoarding of food, or a refusal to eat \* rapid gain / loss of weight
- \* frequent bed - wetting for no identifiable physical reason \* frequent baths
- \* clinging\* mood swings \* running away

#### **Some other signs & symptoms and behavioral disorders:**

- \* Excessive masturbation, \* wanting to touch / show / exhibit genitals.
- \* Knowledge of sexual matters inappropriate to age

- \* physical signs of abuse like genital / anal injuries / bleeding , \* staining of underwear
- \* pain while passing urine or stools
- \* sores / ulcers in and around genitals, anus or mouth
- \* Sexually Transmitted Diseases

**The abused child may be :**

**Passive :** by ‘keeping his/ her head down’, maintaining a low profile, and staying out of sight, the child hopes to avoid contact with and abuse from the abuser. There may be reluctance to be left alone with a particular person.

**Responsible :** the child is forced into an adult role even though not emotionally prepared, or alternately “acting infantile” .

**Disruptive :** the child cannot seem to get along with peers or adults; he / she may be aggressive, intentionally break things, and get into fights. is, self destructive.

( Note : No single sign is proof of child sexual abuse and other factors and circumstances will have to be taken into consideration. A pattern of behaviour, or regularity of occurrence, is cause for concern.)

**What has not been taken into account are the feelings of guilt and self - blame that the victims experience.**

Most often victims believe that they invited the attacks, or ‘asked for it’. If the abuse occurs as early as 1 - 6 years, the child has no label to attach to what is happening, but does feel uncomfortable, and is overwhelmed by fear, shame and a sense of powerlessness. Attempts to disclose don’t occur till much later, after the incident has been suppressed and some crisis acts as a trigger.

Often the child is given gifts like chocolates, money, an outing etc. in return for the favours and sometimes the physical pleasure makes it enjoyable. This makes the act acceptable to the child and makes him / her look forward to the abuse. It also teaches the child the “power” he / she has and can lead to the child to voluntarily indulge in these acts in return for favours.

**Disclosure is Difficult:**

1. The child is usually not aware that he / she is being abused in any way, and even if so, the child has no way of telling anyone that he / she is being abused, as there lacks a **Language** with which to convey this - it is either too technical ( and therefore the child is unable to grasp ), or colloquial, to the degree that it sounds vulgar and the gravity of what the child wishes to convey is lost.
2. In a large number of cases, the person approached by the child might not believe the child / deny the occurrence of such an event. In this case, the child experiences -
  - a. Trauma ( there has been assault on the child’s physical / mental makeup )
  - b. A betrayal of trust ( when there is denial from where the child seeks support and comfort )
  - c. Stigmatization ( the child is tricked into believing that he / she enjoyed / initiated the act, the abuser might imply and implicate that the child as a partner to the act. )
  - d. Powerlessness ( in the actual, specific situation of abuse, which could later extend to the child’s handling of rather the inability to handle crisis as an adult. ).

**When a student discloses and seeks your help because he / she has been abused, the following guidelines are important:**

The child needs the help of a non- judgmental, sensitive and supportive person.

**Confidentiality is of utmost importance.**

The child must never be blamed nor questioned as to whether the victimization or rape actually took place

The teacher should be able to assess if a student is at the immediate risk of suicide.

It is important that the teacher not become involved with the details of the victimization, so that objectivity is not lost.

the mother / parents need to be notified; as, however, in most cases, the abuser is often a close relative / known to the family, professional help must be sought. A counselor will need to take on this responsibility.

\* In the Indian context, statistics show that more girl children are abused than boys, and more often, the perpetrator is male. This is due to the fact that sexual gratification is seen as - "a normal need" in males as against in females as "unimportant, not necessary" and sometimes even "a sin". Therefore most sexual acts, whether "normal" or "deviant", and whether within legal and ethical boundaries or not is seen as ' acceptable' and is "forgiven". Sexuality is also associated with aggressiveness in males. These are because of the basic Gender biases and discrimination that exists in our society.

With such emphasis on virtue and virginity in girls in our culture, sexual abuse in any degree is all that more traumatic

**Abuse of boys** is most often in boys hostels by the senior boys or at home by an older child or adult and includes a whole gamut of abuse including oral and anal intercourse.

### Long term effects of child sexual abuse:

Child abuse victims have behavioral problems, are maladjusted, and unable to cope with ordinary everyday situations and relationships even as adults, long after the abuse has stopped.

They are prone to extreme feelings of guilt, shame and depression

They usually are not able to form intimate or trusting relationships, and may not be able to bear the touch of any male, even their husbands, leading to a long delay in consummation of their marriage.

They sometimes use their sexual favors as a means of income.

Rarely, but not always they can become sexual offenders, including child sexual abuse and other offenses.

*What the technical definition fails to include is what is called Soft Spectrum Abuse, i.e. eve- teasing, etc. which is considered normal by society and is ingrained into the system, is actually yet another form of abuse, and arises out of an imbalance in the existing power structures. Gender bias and stereotyping is all too common, and if equal opportunities are to be provided, independent of sex, race, caste or creed, then attempts to rectify this must be made from an early stage.*

### How to prevent / avoid a child from being abused:

The most important step to be taken is to handle sex and sexuality education at home as well as school from the earliest years.

The child should be taught the following:

#### **"Good touch" and "Bad touch".**

That there are certain body parts that are "Private" which cannot be touched or shown to or exhibited by anyone except a care giver like their mother, grandmother, 'ayah' etc. Even they need to do this only for a specific purpose like when giving a bath, while dressing etc. A doctor can touch and examine the child's genitals and breast for a specific medical reason but in the presence of the parent, or a nurse.

That there are areas that are private to them, e.g. their own room, desk, corner in a room and so on, to which access is restricted to specific people only and at specific times, and only with their consent. That he / she is free to ask their parent / teacher any and all kinds of questions about anything they do not understand, about body parts, "where babies come from" and so on. All questions should be handled truthfully and seriously ( never laugh at the child no matter how silly it sounds). One need not be worried about giving too much information. The child will retain only what is relevant and understood.

The child should be encouraged to talk freely about everything in their lives including friends, happenings at home, school or elsewhere, who he / she met and so on, with his / her the parent / teacher.

The child should be encouraged to question people including his / her parent, teachers and other adults. This will help the child confront and question the offender in case the situation arises. Building a good relationship and trust between the child and parent / teacher is very important especially if the need for disclosure arises.

## CHAPTER IV

# HUMAN REPRODUCTION

### Puberty

The World Health Organization defines "adolescents" as being between the ages of 10 & 24. These years covers the period during which a person matures physically, psychologically, and socially - from childhood to adulthood (WHO, 1989).

**The period during which boys and girls change physically is called "puberty". Certain physiological changes are brought out by hormones (chemicals) secreted in one's body - Oestrogen by ovaries, and testosterone by the testes, which in turn produce the following physical changes in the body:-**

**Girls** - bodies transform in the following physical ways during adolescence.

Enlargement of breast

Sudden spurt of growth and height and weight

Enlargement of sexual organs - The external organs include the labia and clitoris, the internal organs include the vagina, uterus, ovaries

**Production of ova** - every month an egg or ovum, as it is called, is produced by one or the other ovary, about 14 days before the start of the following menstrual period. The egg travels from the ovary to the uterus.

**Periods or menstruation** - a monthly discharge of blood passes from the uterus and out of the females body via vagina. Bleeding lasts for several days this is normal and regular normal activities can be perceived. Sanitary napkins or pads or tampons are used to absorb the bloody discharge.

**Menstrual hygiene** - change pads or tampons as often as necessary. A tampon is a new form of sanitary protection. A tampon is worn internally it soaks the menstrual fluid right near the source. Wash hands with soap and water before and after changing. Wash the genital area every day with soap and water.

During menstruation take bath everyday

Wash hands before and after changing the napkin

Wash the external genitalia with body soap

**Boys** - bodies experience the following physical changes during adolescence.

Deepening of the voice

Growth of Body, pubic, and facial hair

Sudden spurt of growth in height and weight

**Growth of sexual organ** - the penis enlarges, and sperms begins to be produced by the testes.

Penile erection, the penis becomes hard. An erection may occur because of stimulation during masturbation or spontaneously. It may be associated with the discharge of semen ( ejaculation).

**Physical hygiene** - wash penis, move back foreskin and wash with soap and water while having a bath..

### Female reproductive system

**External Genitalia in females:**

**Unlike the male reproductive system, the female reproductive system is largely internal, that is it is situated with in the body.**

**What is seen externally are only the pubic hair and the outer lips or labia majora, and sometimes the inner lips or labia minora.**

The space between the inner lips has the opening of the urethra which leads to the urinary bladder. Below the urethral opening is the opening of the vagina. It is through this opening that the menstrual flow is discharged.

The vaginal opening is covered by a thin perforated membrane called the hymen. The presence or absence of the hymen is not indicative of virginity. Baby girls may not be born without a hymen, or the hymen can break through strenuous physical activity including some sports.

Between the folds of labia majora and labia minora is a small pea shaped organ called the clitoris which is covered by a hood. It is highly sensitive and is the seat of sexual pleasure.

Behind the vagina is another opening, the anal opening, for the faeces to pass out of the body. Particular care should be given to personal hygiene as the vaginal opening lies between the anal and the urethral openings.

#### **Reproductive organs -Internal**

- The reproductive organs that cannot be seen because they are situated within the body are the vaginal passage or canal which is about 2-3 inches long and made up of folds of mucus membrane \* On either side of the vaginal canal are the Bartholin glands which lubricate it.
- The uterus is a small pear shaped organ about three inches long, two inches wide and one inch thick. The mouth of the uterus, called the cervix, opens into the vagina.
- Leading from the uterus and either side of it, are two thin, hair like tubes called the fallopian tubes which end in finger like projections called fimbriae.
- There are two ovaries, one on either side. Each ovary is at the end of the fallopian tube but separate from it .The ovary is the female sex gland responsible for the growth of the secondary sexual characteristics, and of the production of the female eggs or the ova. A female child is born with the capacity to produce 200,000 eggs or ova. However, during her reproductive span only 400 of these mature.

#### **Menstruation, Menarche and Menopause:**

- When a girl becomes 10-12 years of age, the ova or eggs in her ovaries begin to mature. Every month one ovum or egg matures in one of the two ovaries. This is called ovulation. The ripe egg is released from the ovary into the abdomen, is caught by the fimbriae and travels down the fallopian tube towards the uterus. It is here that the sperm meets the ovum and fuses with it to form the zygote. This is called **fertilization**. The zygote gets implanted in the uterus - pregnancy.
- Around the time the ovum is maturing, the walls of the uterus get thickened and congested with blood vessels in preparation for receiving and nurturing the fertilized egg. If fertilization does not take place, the lining of the uterus breaks down and is discharged after a few days, along with some blood, through the vaginal opening.
- This discharge lasts for about four to five days. It is repeated every month and is called the **menstrual or the monthly period**. The onset of menstruation is called **menarche**. During the first few years it is normal for the menstrual cycle to be irregular. The onset of menstruation indicates that a girl is physically capable of reproduction . However, she is not psychologically or physiologically ready to carry out the reproductive function. **Menstruation stops during pregnancy**.
- All girls do not start menstruating at the same age . A girl should have started menstruating by the time she is 18 years of age. Menstruation is neither dirty nor is it an illness. Some girls may suffer from backache and cramps during menstruation. If the pain is unbearable then a doctor should be consulted. Menstruation is a normal part of growing up and all routine activities can be carried out as usual.
- It is essential to use clean cloth, sanitary towels, or internal tampons during the menstrual period . These should be changed frequently depending on the amount of discharge. It is also very important to maintain personal hygiene during menstrual period.
- Around 40 -50 years of age menstruation stops, this is known as **menopause**.

## Male Reproductive System

### **Genitalia:**

Unlike the female most of the male sex organs are situated externally. They consist of the penis and the scrotal sac containing the two testes which grow in size till about 18 years . It is normal for one testes to hang loosely and lower than the other.

The penis consists of a body and a head or the glans penis. The head of the penis is covered with a foreskin. This foreskin should be pulled back and cleaned every day. Otherwise a whitish substance called smegma collects under the fore skin and can lead to infection. If the fore skin is surgically removed it is called circumcision. This may be done for hygienic or religious reasons.

The size of the penis is not related to virility.

At puberty, the testes begin to produce millions of male seeds or spermatozoa or sperms. This continues through out a man's life.

The spermatozoa travel through a tube, the vas-deferens or the spermatic duct to the urethra.

### Fertility:

Fertility relates to woman's ability to produce healthy eggs and a man's ability to produce healthy sperms. A healthy woman produces eggs virtually every month from the onset of ovulation (between ages 10 and 17 ) until menopause, when ovulation stops ( between ages 35 and 50). However, the production of eggs will be greatly affected by nutrition levels, health, stress, workload, and fatigue.

Men can produce sperm throughout their lives, providing they are healthy. The amount of sperm a man produces decreases as he gets older.

### Infertility:

Infertility, the inability to fertilize an egg or to become pregnant, can cause great distress to the individual. The reasons for infertility are many and can be caused by both physical and psychological factors in the male or the female.

Previously untreated STDs are a major cause of infertility in either partner. It is important to know what these STDs are, how they are transmitted and how to avoid them.

### Conception - to conceive means to become pregnant

Pregnancy occurs after sexual intercourse and fertilization. The sperms that are deposited in the vagina after sexual intercourse, travel up into the uterus and then into the fallopian tubes. Here one sperm will fuse with the ovum which has come from the ovary. This is called fertilization. The fertilized egg or zygote will get implanted in the uterus. This is pregnancy.

The first signs of pregnancy vary from woman to woman but include the absence of menstruation tender breasts with dark rings around the nipples, and in the first three months, feeling nauseous at any time of the day; sometimes periods or just spotting can continue despite pregnancy.

If the mother smokes, drinks alcohol or takes drugs her baby's progress may get adversely affected. Girls aged 12-17 are more likely to have problems during pregnancy, because their bodies are still growing and developing. Girls becoming pregnant at a very young age can have anemia, prolonged labour, abortions and a dangerous condition known as Toxemia of pregnancy ( high blood pressure), epileptic seizures, sometimes leading to death).

Babies born to young mothers can be of low birth weight have mental retardation, deafness and other congenital abnormalities.

Women over the age of forty also need extra care because of the increasing risk of foetal abnormality. They may also be suffering from chronic debilitation related to multiple previous pregnancies.

**Therefore it is advisable to avoid pregnancy before 18 and after 40 years of age.**

The pregnant woman should be under the care of a Gynecologist who will monitor and ensure the health of the mother and foetus. Studies have shown that a child survival rate in our country improves if all pregnant woman have access to health care services and assistance at the birth of their child by trained attendants.

### Child birth (delivery):

During childbirth, the cervix dilates, the uterus starts contracting and the baby is expelled out through the vagina. The contraction of the uterus produces the “birth pain”. The placenta is expelled out few minutes after the baby comes out. The baby is held upside down, made to cry by giving a gentle slap on the back. With the cry, the baby takes in air which expands its lungs, and it begins to breathe. The baby is then cleaned and given to the mother to suckle. The baby instinctively starts suckling and drinking breast milk.

### Breast Feeding:

The first few days of breast (mammary gland) secretion is a thin serous liquid, and later milk secretion starts. Breast milk is the best food for the new - born baby as in addition to nutrition it contains antibodies from the mother which guard the baby against many infectious diseases.

Girls and boys are often curious about the size of the breasts and its ability to produce milk when the girl becomes a mother. The ability to and the amount of milk produced is in no way related to the size of the breasts.

### Immunization:

It is important to protect the newborn baby against various dangerous diseases. This immunization or vaccination is given to the baby as oral medicines or injections starting soon after birth over a period of time according to the following recommended schedule.

#### **Immunization Schedule**

<b>Sl. no.</b>	<b>Age</b>	<b>Vaccine (dose)</b>
1.	Birth to 2 weeks.	BCG, OPV(1), HB(1)
2.	6 weeks.	DPT(1), OPV(2), HB(2)
3.	10 weeks	DPT(2), OPV(3)
4.	14 weeks.	DPT(3), OPV(4)
5.	6-9 months	OPV(5), HB(3)
6.	9 months.	measles.
7.	15-18 months	MMR
8.	18-24 months	DPT(B1), OPV(6)
9.	5 years	DPT (B2),OPV(7).HB(B1).
10.	10 years	TT(B3)
11.	15-16 years	TT(B4), HB(B2)

- BCG- Tuberculosis; OPV- Oral Polio Vaccine; HB- Hepatitis B; DPT- Diphtheria, Pertussis ( whooping cough ) & Tetanus; MMR - Measles, Mumps & Rubella ( German Measles ); TT- Tetanus Toxoid.
- ( B)- Booster dose.
- In addition TT should be given whenever the person is injured and has an open wound. Specific and non-specific vaccines are also available against many other diseases.

### Abortion and stillbirth

Sometimes the pregnancy is “aborted” i.e. it does not continue and the foetus and placenta will be expelled by the uterus. Sometimes there is a stillbirth i.e. the baby is born dead. Stillbirth can happen due to many reasons including abnormalities in the foetus, hormonal imbalance, alcohol, tobacco and other drug use by mother etc.. An important cause for stillbirth and abortion is pregnancy before 18 and after 40 years of age.

## Medical Termination of Pregnancy:

Medical Termination of pregnancy (MTP) is abortion induced medically. This is advised when the doctor detects a defect in the child or when continuing the pregnancy can cause harm to the mother's physical or psychological health.

- MTP during the first 12 weeks of pregnancy is performed per vaginum i.e. through the vagina. It is usually not advised after 12 weeks of pregnancy, but if required then, is done per abdomen i.e. by abdominal surgery.
- MTP carries a certain amount of risk like any other surgical procedure and should be performed only by a trained doctor, and even then can result in pelvic infections etc. which can lead to blockage of the fallopian tubes and infertility.

### **India's Population Problem-**

India is the second most populous country in the world, the first being China. Our population estimated at 920 million today, is growing at 1.9 % per annum and even though the fertility rate has come down to 2.3 children per couple, it will still cross the 1 billion mark by the year 2000. The high population level in India is one main reason for problems like poverty, illiteracy, gender discrimination, female infanticide etc. It is therefore very important that we follow some form of birth control (contraception).

### Contraception:

Contraception prevents conception (pregnancy) from taking place. It prevents the sperm from reaching the egg / or prevents a fertilized egg from implantation in the uterine wall.

#### **The following are some methods of contraception.**

The temporary methods like IUDs ( Intra Uterine Devices ) like loop, Copper ' T'; diaphragm ( Vaginal ), Oral pills or injections, and condoms are best suited for short term contraception and spacing between two pregnancies. The permanent methods are Vasectomy and Tubectomy.

#### **Traditional Methods**

- 1) **Abstinence** -you can avoid all forms of sexual activity that allows the penis to come into contact with the vagina in any way.  
Benefits-Avoids STDs.  
Problems - Involves great self control. Needs to be practiced all the time if pregnancy is to be avoided.  
Reliability -100% if followed all the time.
- 2) **The safe period**-Identify the day every month when an egg is produced (ovulation), which is 14 days prior to the onset of the next periods, and avoid intercourse for three days before and four days afterward. Ovulation can be identified in some women. Some women experience cramping pain in the middle of their cycles, and they notice an increase in the cervical mucous discharge from their vagina. The body temperature also goes up by 1-2 degrees F. But since ovulation cannot be predicted reliably and since the sperms can remain viable in the vagina for a few days this method is highly unreliable.
- 3) **The withdrawal method**- The man removes his penis from the vagina before he ejaculates. But semen may leak into the vagina before ejaculation takes place. The method is therefore not reliable.

#### **Temporary Methods** These are specially useful to space pregnancies.

1. **Condoms**- male and female condoms are quite reliable and have the advantage of preventing STDs including HIV/AIDS. A male places the condom over his erect penis from the beginning to the end of intercourse to prevent the semen from entering the vagina and reaching the uterus.

- A Condom must not be used with oil based lubricants such has petroleum jelly (Vaseline) mineral oil, cooking or baby oil, skin lotions, sun tan lotions, cold cream or butter. Use water based lubricants such as glycerin and KY jelly. Spermicidal jelly and foam are also good lubricants and add more protection against pregnancies and STDs.
  - A condom should be worn every time the person has sexual intercourse.
  - A condom can be used only once.
  - It must be worn even before intercourse, during sexual foreplay. A new condom must be used every time a couple have sex.
  - It must be used within the expiry date and meanwhile stored in a cool, dark place as heat, light, and humidity can damage condoms.
  - Quality of condoms is not always guaranteed if it is not from a recommended manufacturer.
- Benefits-Cheap and widely available. Protects against STDs, including HIV.**

**Problems-**Some people feel the condom reduces sensitivity. Financial cost may limit use.

**Reliability-** Of 100 couples using this method, 11 to 14 women can become pregnant. If spermicide is used, success rates are higher.

**Female Condom-** This is a rubber sheath with two firm rings to hold it in place. One ring fits over the cervix, the other outside the vagina against the vulva. The condom prevents contact between the penis and vagina, the rings prevents the condom from being forced inside by the penis. Must be used with a spermicide.

**Benefits-** Protects against STDs, including HIV. Women can control contraception. Protects the vulva and vagina. Can be used with oil based lubricants because it is made of polyurethane, unlike male condoms which are made of latex.

**Problems-** Availability limited. Needs training to fit it comfortably and safely. Financial cost of both spermicide and condom. The above perishes if not stored in a cool place.

**2) Diaphragm (Cap)-**A female can wear a rubber cap over the cervix before sexual intercourse takes place. If used correctly, it is 75% reliable

**3) IUD (coil) -** A small piece of plastic, the loop, or sometimes with a copper covering, the “copper-T” is placed in the uterus by a doctor. Prevents a fertilized egg from implanting in the uterine wall. It is quite reliable but can increase menstrual cramping and bleeding and there exists the possibility of pelvic infection. This has to be changed every 3 years

**4) The pill -** The women takes a oestrogen & progesterone combined - hormone pill for 21 days every month. Prevents ovulation and provides reliable protection from pregnancy, provided the instructions are carefully followed. A single hormone pill, taken at the same time every day, is also available. It does not prevent ovulation but prevents the egg from implanting in the uterus.  
**Depo provera** - the hormones can also be injected once in three months.

**Norplant** - is a small device that is implanted under the skin of the forearm and releases progesterone at a constant rate for 5 years. It is virtually 100% reliable.

**Problems:** Increase in weight , high blood pressure, heart problems , retention of fluids etc. It is believed to be carcinogenic if used for a long time.

#### **Permanent methods :**

**Sterilization** : it provides permanent contraception for men and women.

**Vasectomy**: a minor operation for men under local anesthesia, performed by a doctor. The tubes that carry sperm from the testes to the penis are cut and tied . Thereafter there will be no sperms in the semen. The operation does not affect sexual feelings, virility or performance of the sexual act.

**Tubectomy** : a woman's fallopian tubes are cut and tied so the eggs produced in the ovaries cannot be fertilized as the sperms cannot meet them in the fallopian tube. It must be performed by a doctor under local or general anesthesia. Eggs continue to be produced but are re-absorbed into the woman's body. The operation does not affect sexual feelings or femininity. It is virtually 100% reliable.

## CHAPTER V

### SEXUALLY TRANSMITTED DISEASES (STDs)

These are infections that are passed on from an infected person to another through sexual contact; infected blood transfusion; unsterilized infected needles, syringes, blades, surgical instruments etc. and from a pregnant woman to her child; and very rarely through intimate contact. (e.g. Herpes, Hepatitis B & C )

#### Commonly Known STDs, Symptoms & Treatment

Diseases	Symptoms	Treatment
<b>Chlamydia</b>	Men: burning on passing urine and discharge from penis Women: Pelvic Inflammatory Disease	Antibiotics
<b>Herpes</b>	Sores around mouth ( cold sores ), genitals or anus, often with small, painful blisters	Anti Virals
<b>Crab Lice</b>	Itching, especially at night; visible, moving lice in pubic hair and eggs ( nits ) attached to hair shafts	Lotions to kill lice
<b>Genital Warts</b>	Painless growths usually around vaginal opening, anus, or on shaft of penis; may occur several months after contact	Removal by surgery or chemical treatment ( podophyllin )
<b>Gonorrhoea</b>	Men: burning on passing urine and discharge from penis Women: PID ( Pelvic Inflammatory Disease )	Antibiotics
<b>Syphilis</b>	Painless ulcers at point of contact, usually penile shaft, around vaginal opening, anus or mouth. Secondary stage may include a rash, and swollen lymph nodes	Antibiotics
<b>Trichomoniasis ( Trich or Tv )</b>	Women: yellow- white smelly discharge from vagina causing itching and irritation, swelling of vulva Men: inflammation of the penis	Antibiotics
<b>Hepatitis B</b> <b>There may be three kinds :</b>	1. Carriers have no symptoms - it may be discovered during a routine blood test - severe fatigue and appetite loss, pain in the joints 2. Acute Hepatitis – jaundice - skin and whites of eyes turn yellow, darkish brown urine and light, clay- coloured stools 3. Chronic Hepatitis - a chronic liver disease	Prevention by vaccination Interferon injections for treatment
<b>Hepatitis C</b>	Similar to Hepatitis B	Interferon injections.
<b>HIV / AIDS</b>	No symptoms during the HIV infection stage. Symptoms of opportunistic infections during the AIDS stage	Symptomatic treatment of infections. No effective curative treatment against the HIV virus so far.

## Common Signs & Symptoms in men & women

Burning / pain  
Itching  
Discharge with or without bad smell  
Blisters - single / multiple  
Sores on the genital area  
Sores on the mouth

### **In Women:**

Unusual vaginal discharge (yellow, green, white, curd like...)  
Abdominal / Pelvic pain  
Irregular bleeding  
Burning in & around vagina  
Painful sexual intercourse  
Symptoms may be mild and can go unnoticed.

### **Why STDs are a concern?**

- STDs can sometimes be silent, i.e. symptomless
- A person can have more than one STD at a time
- Presence of an STD increases the risk of acquiring HIV infection by 50 %.
- STDs can lead to:-
  - a) chronic disability and rarely death.
  - b) Infertility in both men and women
  - c) PID (Pelvic Inflammatory Disease) in women, with abdominal pain, lower back - ache, pain during intercourse, vaginal discharge and fever.
  - d) Ectopic (tubal) pregnancy, repeated abortions and still births.
  - e) Cervical cancer
  - f) Congenital abnormalities and other defects like eye infections and Pneumonia in the newborn

## **CHAPTER VI**

### **HIV / AIDS**

#### **An Introduction:**

In 1981 in the USA there was a sudden increase of uncommon, rare diseases like Kaposi's Sarcoma (a rare skin cancer), Pneumocystis Carinii Pneumonia etc., among young, homosexual males. A study of these cases by the Centre for Disease Control, Atlanta in 1982, resulted in the discovery of AIDS, which they described as "a disease caused by an underlying cellular immune deficiency leading to reduced resistance"

#### **AIDS stands for:**

**Acquired** - this is not a genetic disorder but is acquired during one's lifetime.

**Immune Deficiency** - the body's immune (defense) system is slowly destroyed leading to Immune Deficiency.

**Syndrome** - it is a disease complexly manifested as various signs and symptoms of many different diseases.

In 1983, **Montagnier et al** in Paris, reported the discovery of a new virus that they had isolated in AIDS patients which they called LAV or Lymphadenopathy Associated Virus. At the same time, **Gallo** and his colleagues in the US isolated a virus from AIDS patients which they called HTLV-III (Human T-Lymphotropic Virus).

It was later discovered that these two viruses belonged to the same group of retrovirus and in 1986, the International Committee for Viral Nomenclature decided to call it **HIV- Human Immunodeficiency Virus**. A second type of the virus was isolated in AIDS patients in West Africa. This was named HIV-II.

In fact, tests done on blood samples taken from Hepatitis B patients for research purposes and stored for 25 years indicate that the earliest known case of human infection with HIV occurred in a male patient from Uganda in 1965.

Since then, doctors and scientists all over the world have made rapid advances in the various aspects concerned with HIV & AIDS. But still, it is a relatively young disease, there are new facts emerging every day.

#### **Origin of HIV:**

Veterinary doctors have known for a long time about similar immune deficiency diseases caused by retroviruses in monkeys, cats, cattle, dogs, etc. Scientists believe that one of these viruses underwent a mutation (a change in chromosomes) and became capable of affecting human beings. The changed virus probably came from some African monkey and entered man when he was scratched or bitten. This infection existed in Africa for some 20 - 30 years before suddenly appearing in Haiti and later in other countries.

#### **AIDS in the World Today:**

Since the first cases of AIDS were discovered in 1981, many cases of HIV infection and AIDS have been identified in people from all over the world, with some of the African countries being worst affected. The first AIDS case was reported in India in May 1986, in Bombay and later followed by reports from Madurai and Madras in Tamil Nadu. Today, in the first year of new millennium India is reported to have anywhere between 3-4 million HIV infected individuals.

#### **All about HIV:**

In human beings genetic information is carried by the DNA whereas in HIV, the genetic information is carried by RNA. HIV is a retrovirus, because it produces an enzyme called reverse transcriptase which changes its RNA structure into a DNA structure.

The RNA is found inside a core made of protein which is covered by an envelope or membrane. This membrane has protein cum carbohydrate molecules known as glycoprotein (GP). Two of these - gp 41 and gp 120, and the core proteins p-18 and p-24 are specific to this virus. These form the basis for the tests used to discover the presence of the virus in a person.

Like all retroviruses, HIV needs a host cell for replication and cannot reproduce on its own. It also needs a receptor on the host cell to be able to enter it.

There are two known forms of HIV: HIV 1 & HIV 2. There are many subtypes of HIV 1 & 2. No drug has been discovered so far, to kill the virus as long as it is in the body. But once outside, the HIV is a weak, fragile virus which is easily destroyed by heat (drying, boiling) and chemicals like acid, household bleach, surgical spirit, savlon etc.

### **HIV acts by destroying our Immune system:**

#### **Human Defense / Immune System**

The human body has three lines of defense, the first is the skin, mucus membrane, tears and ear wax. The second consists of the Lymphoid tissues like the tonsils, spleen, lymphatic system etc. The third line of defense is the **WBC system containing CD4 and CD8 lymphocyte, macrophage etc.** The WBC system identifies and then fights destroys invading organisms by producing “**antibodies**” and chemical poisons against them and by ingesting and digesting them.

In an infected person, the HIV is found in all cells in the body, but especially invades WBCs, like macrophages and CD4 cells. Once inside, the HIV makes the CD4 cell produce thousands of HIV which then go on to attack other cells in the body.

### **Difference between HIV infection and AIDS:**

**HIV infection stage** ~ During the initial chronic HIV infection stage, though the person has the virus he / she looks and feels healthy and can spread the HIV to other unsuspecting people. During this period, the only way of knowing if a person is infected is by doing the special blood tests called ELISA and the WESTERN BLOT. The HIV positive or HIV infected person is a dangerous carrier who and he / she too may not realise that he / she is infected. This stage can last for 6 - 12 years or more.

**The AIDS Stage** ~ Slowly but surely, the immune system loses its war against HIV and is destroyed. The person has uncontrollable fever, headaches, loss of weight and acute diarrhea. They are prone to “opportunistic” infections like TB, Pneumonia, fungal infections of the mouth, Herpes, Cancer, Skin infections, Eye infections leading to blindness, Brain infections leading to dementia, insanity etc. These diseases attack the person at the opportune moment when the defense system is weakened.

Once a person comes to the AIDS stage, there is a rapid downhill progression till it finally ends in death in about 6 months to 2 years. The number of years the HIV positive person takes to come to the stage of AIDS and thereafter how long he lives with AIDS is much shorter in developing countries like India, as compared to developed countries like USA. This is because of:

- 1 The already low nutrition level in the people
- 2 The number of diseases present in these countries
- 3 Poor hygienic conditions
- 4 The prohibitive costs of tests and medical treatment.

### **Tests to detect HIV:**

- 1) The blood tests to detect the virus itself are very elaborate, difficult and expensive - so they are used only for research purposes.
- 2) ELISA ( Enzyme Linked Immuno Sorbent Assay ) and Western Blot tests detect the presence of HIV antibodies and not the virus itself. It takes 3 hours to do the test, and special kits, equipment and trained personnel are required to do it.

**False Negative ELISA:** The ELISA test is not fool-proof. The antibodies against HIV are formed only 2 weeks to 3 months after the person gets infected ( seroconversion ). During this time lag called “ window period ” the ELISA test will show a Negative result because of the absence of HIV antibodies, even though the person actually has HIV infection. In the late stage of the disease when there is a total collapse of the immune system also there is no production of antibodies and therefore false negative ELISA.

**False Positive ELISA:** Sometimes the ELISA test is positive even though there is no HIV because of inherent limitations in the test kit. So two more ELISA or the Western Blot test is done for confirmation.

**ELISA test in infants -** All infants born to HIV infected mothers will have maternal HIV antibodies circulating in their blood till 18 months of age. So the ELISA test will show a positive result whether or not the child has HIV infection.

#### **Criteria for doing the ELISA test:**

- 1) All blood and all organ - transplant donors - to prevent transfusion of infected blood and organs.
- 2) Any person who has: (a) multiple sexual partners (b) Casual unprotected sex (without using condoms)
- (c) Sex with male or female prostitutes ( d ) homosexual encounters ( e ) blood transfusion with untested blood ( f ) multiple blood transfusions for Haemophilia, Thalassemia, Cancer etc.
- 3) Sexual partners of the above
- 4) A clinically suspected case of AIDS, for diagnosis.
- 5) Unlinked, anonymous testing for the purpose of surveillance studies.

**Maintaining the confidentiality of the identity of a HIV positive person is of utmost importance.**

**Testing should be done with pre and post test counseling after taking the consent from the person.**

### **How Does HIV Spread ?**

#### **HIV is found in body fluids & lymph nodes**

<b>Body fluid</b>	<b>Quantity of HIV</b>	<b>Quality of HIV</b>	<b>Transmission of HIV</b>
<b>Blood</b>	<b>High</b>	<b>Good</b>	✓
<b>Semen</b>	<b>High</b>	<b>Good</b>	✓
<b>Vaginal fluid</b>	<b>High</b>	<b>Good</b>	✓
<b>Mother's milk</b>	<b>Low</b>	<b>Good</b>	✓
<b>Saliva</b>	<b>Low</b>	<b>Poor</b>	?
<b>Tears, Sweat, Urine</b>	<b>Very Low</b>	<b>Poor</b>	X

HIV is found in almost all the cells and in all the body fluids like semen, vaginal fluid, mother's milk, sweat, urine, tears, saliva etc. But only blood, semen, vaginal fluid and mother's milk are known to transmit HIV. The unbroken skin acts as a 100% barrier against HIV, but the virus can pass into a person's body by infecting the mucous membrane lining the eyes, nostril, digestive tract (from the mouth to the anus), vagina, penis etc.

**Out side the body HIV is easily destroyed by:**

1. Heat - boiling, drying
2. Chemicals - Bleach, Acid, 70% Alcohol, Savlon, Hydrogen Peroxide

**The 3 routes by which HIV can spread from one person to another are:**

#### **1) Infected blood:**

- a) Transfusion of infected blood will definitely result in infecting the recipient. In India, around 10 to 15% cases of infections are by this route.
- b) Through infected needles and syringes and other skin piercing instruments: In the North Eastern States of our country where intravenous ( I V ) drug abuse is very common, sharing of needles and syringes by many people has led to the spread of HIV among them.

## **2) Sexual contact (through infected semen and vaginal fluid)**

The majority of infection in India is through the heterosexual route. Though all penetrative sexual activity can lead to infection the following points are to be noted:

a) if one of the sexual partners has ulcers on the penis or in and around the vagina due to other sexually transmitted diseases ( STDs ) e.g. - Syphilis, Genital Herpes, Genital Warts etc., the HIV spreads more easily.

b) Anal sex is the riskiest form of penetrative sex because multiple injuries and tears are caused in the anal wall, which makes it easier for the HIV to enter the blood stream of the partner. This is why it spreads fastest among homosexuals.

c) Oral sex: when the mouth is used for penetrative sex - The amount of virus secreted in the saliva is comparatively less, but still there is a certain amount of risk of infection. The risk though is not as much as in anal or vaginal routes. The risk increases if there are ulcers, injuries or bleeding gums. Similarly, there is a very small risk factor associated with deep kissing (French kissing).

## **3) From an infected mother to her child**

30 to 40 % of babies born to HIV positive mothers are infected. There is no way of preventing this totally; but treating the mother with antiviral drugs like AZT during pregnancy can reduce the risk. The mother could be told the facts and the option of may be having an abortion is left to her.

The HIV passes from the infected mother (a) during pregnancy through the placenta to the foetus

(b) during delivery and (c) through the mother's breast milk to the baby.

Asking the mother not to breast-feed the child is not advisable in developing countries like ours. The mother's milk has protective antibodies against many endemic diseases.

### **HIV Can Be Transmitted Through:**

Casual, unprotected sex ( without using condoms )

Multiple sexual partners

Homosexual encounters

Infected blood administered during transfusion intravenously

Infected syringes, blades and other skin piercing instruments, and

From infected pregnant mother to child

### **HIV does not spread by:**

Normal social contact like shaking hands, hugging, sharing plates, cups, glasses etc.

Using public toilets, swimming pools, public transport like buses, trains etc.

Food, drinks etc.

Insects, bugs, mosquito bites

Sneezing, coughing

### **Prevention of HIV:**

#### **1) Via the Sexual route:**

Have sex with only one partner who is faithful to you. Sex with multiple partners is a high risk venture. Avoid unprotected, casual sex with unknown partners, strangers, commercial sex workers. Pre-marital and extra-marital sexual activities are risky.

Using good quality condoms gives considerable protection against not only HIV but against other sexually transmitted diseases like Syphilis, Gonorrhoea etc.

#### **2) Through infected blood:**

- When blood transfusion is required, blood from a voluntary donor / voluntary blood bank, which is tested and has a label stating that it is ELISA negative, should be used.
- Only disposable or adequately sterilized needles and syringes should be used.
- All skin piercing instruments like knives, scalpels, needles, dental equipment etc. should be sterilized before use or disposables should be used.
- At the barber's shop, use disposable or sterilized razors and blades should be used for shaving. Razors and blades can be sterilized by boiling in water for 20 minutes or keeping them immersed in household bleach for 30 minutes.

### **Remember!**

- Once HIV enters a person's body, it stays for life. It cannot be dislodged at any point.
- There is, as yet, no cure, or vaccine against HIV. Therefore, prevention is the only way to avoid HIV infection & AIDS.
- Sooner or later, the HIV infected person gets AIDS which is usually fatal.
- An HIV infected person looks healthy, the only way we can find out if he is infected is by doing a special blood test called ELISA and Western Blot.

HIV spreads through sexual contact and through infected blood. It is not spread through normal social contact.

### **Cure, Vaccine, Management of HIV / AIDS:**

Zidovudine / Retrovir / AZT and other antiviral groups of drugs like ddL, ddA, ddl etc. which have been developed against HIV have not been able to totally destroy the virus in an infected person. But they have been able to prolong the life of the person by delaying the onset of AIDS, especially if one or more drugs are used at the same time. Though these drugs are available in India, they are very expensive and therefore are unaffordable by most people in India. Various other allopathic drugs including aspirin, interferon etc., ayurvedic drugs, naturopathic treatment using pineapple, jack-fruit etc., are being tried. But so far, no proven cure has been found.

Gene therapy ( gene manipulation ) is the latest area where research is being conducted to find an effective cure.

### **Vaccine - Why it hasn't been produced as yet:**

Traditionally, live attenuated virus or killed virus is given (injected or oral) to a person to stimulate his natural immune system to produce antibodies against that particular virus. In the case of HIV, the killed virus can produce various toxic side effects, and the live attenuated virus could mutate, and this mutant could produce an AIDS - like disease.

In any case, the antibodies produced against HIV in an infected person does not seem able to destroy the HIV, and we know for a fact that the person continues to be infected for life.

Since the HIV mutates very rapidly, any cure or vaccine developed against one form may not be very effective against the new variant.

### **Management of HIV infection & AIDS:**

Since therapy with AZT and other antiviral drugs is very expensive, the management of HIV/AIDS patients consist of :

- a) Counseling and psychological support - including advice about safer sex methods to prevent spread of infection to others.
- b) Advice about general health, nutrition, exercise etc. to strengthen the immune system.
- c) At the first sign of any opportunistic infection, medical treatment should be started.
- d) Tuberculosis being endemic in India, HIV positive people may consider taking anti-tubercular drugs as a preventive measure.
- e) An HIV infected individual, working in a health care setup, may have to be taken away from direct patient care and given work in an administrative capacity.

### **Some Myths, Misconceptions, Common Doubts & False Beliefs:**

#### **1. One can get HIV infection by donating blood ..... wrong !**

One cannot get HIV infection or any other infection when donating blood because pre-sterilized disposable needles and blood bags are used to collect blood.

#### **2. Why should one take blood from a voluntary donor only ?**

Statistics the world over prove that there is a high incidence of transfusion transmitted diseases among paid donors. The option of voluntary deferral is exercised by the voluntary donor but the paid donor will want to give blood even if he / she has any risk behavior

**3. It is safe to take blood from close relatives and friends.....not always !!**

One should always test the blood prior to transfusion even if it is from close relatives or friends.

**4. Can we take away all the blood from an infected person and replace it with new uninfected blood ?**  
HIV is found not only in blood but in all other cells and body fluids like semen, vaginal secretions, lymphatic fluid, sweat, saliva etc. So, it will not help to replace the blood with uninfected blood.

**5. Can healthy CD4 cells either form donors or by growing it in laboratories be transfused to an AIDS patient to build up his reduced CD4 cell level ?**

Each person's immune system, and especially the CD4 cells are unique to that person and the CD4 cells are programmed to recognize what is " self " and what is " foreign ". So, CD4 cells from another person or laboratory grown CD4 cells may not suit that person.

**6. Can mosquitoes spread HIV infection ?**

No. When mosquitoes bite an infected person, the blood that is sucked by it goes into the stomach, where HIV is destroyed. The amount of virus found on the proboscis is not enough to infect. What little blood there is also dries up and the HIV dies. We also know that the HIV infections are most common among the most sexually active younger age group between 18 and 40 years of age. Whereas if mosquitoes could spread it, HIV infection would have been as common among all age groups and also would have spread much faster. This is an indirect evidence that mosquitoes and other insect bites cannot spread HIV.

**7. How good is the protection given by condoms against AIDS and other STDs?**

Condoms give considerable protection against AIDS and other STDs provided they are used every time properly. Condoms should be of good quality, manufactured by a reputed company which follows good manufacturing practice and with quality control and quality assurance methods.

**8. If prostitution is abolished, the spread of AIDS will be stopped...wrong!**

One can acquire the HIV infection from any infected person, not necessarily from commercial sex workers only. Obviously because of multipartner sex, the prevalence of HIV is very high amongst commercial sex workers, and therefore the risk of acquiring HIV from them is greater. Abolishing prostitutes by legislation only makes the problem go underground. The ' clients ' of the prostitutes should be made aware of the risks associated with this kind of unprotected casual sex.

**9. It is safe to have sex with a " healthy partner "!**

Sure! But what do you mean by a healthy partner? By looking at a person one cannot make out that a person is infected with HIV or not. Only by doing the blood test (ELISA) can you decide whether that person is infected.

**10. One should have sex with a " tested " partner only...not possible!**

The ELISA test takes three hours to perform. The ELISA gives a false negative result during the window period and false positive result due to inherent limitations in the principle and procedure of the test. A person can acquire infection at anytime, so ELISA negative once does not make the person safe for life, at the same time it is not possible to test the person every time before sex.

**11. How do lesbians have sex? Can HIV pass through sexual activity from one lesbian to the other?**

Lesbians either masturbates by stimulating the clitoris, which is the sensitive button-like structure, found above the vagina, or by using dildos, vibrators etc. for penetrative activities. The chance of HIV passing from one lesbian to the other through the sexual route is very low.

**12. Can HIV infection pass from the patient to the doctor or from the doctor to his patient?**

As long as proper precautions like using gloves, sterilizing needles, syringes, and surgical and dental equipment etc., are followed strictly HIV cannot spread from the doctor to the patient or vice versa.

**13. Is there any risk in trying to help and give first - aid etc., to a bleeding accident victim?**

If there are no cuts or open wounds or ulcers on your hands & arms and mouth giving first aid to the accident victim is quite safe. As an additional precaution a mouthpiece may be used for mouth - to -mouth resuscitation.

**14. Is it safe to use public toilet and public swimming pools?**

Yes, it is safe because, the HIV is destroyed by the chlorine (bleach) used to disinfect swimming pools. On a toilet seat, even if infected blood or other body fluids are present, once the fluid dries up, the HIV is destroyed, and in any case cannot enter your body unless it comes into contact with a cut on your skin.

**15. If detected early can HIV infection be cured? If not why test a person with risk behaviour**

No, whether detected early or late, so far no cure has been found, but early detection can help to modify the course of HIV infection, increase life span as well as the quality of life with the help of counseling and medical care.

**16. Can HIV affect other animals?**

No. HIV is the virus that affects human beings specifically. There are other viruses, which affect animals. HIV is most similar to the SIV (Simian Immunodeficiency Virus) which affects monkeys and apes.

**17. Why don't we test everyone for HIV?**

The test should be done for a specific purpose only as given earlier. Even then it should be done with pre and post test counseling. In any case ELISA negative once does not mean that the person cannot get the infection later.

**18. Should a couple get tested before marriage?**

Marriage is based on mutual trust, affection and respect. So each couple will have to decide for themselves whether to get tested. They should remember that unless there has been some risk behaviour or risk factors, there is no need to test and that a person who is HIV negative when tested the first time, can get the infection later if there is risk behaviour.

**19. Should an HIV infected person be dismissed from his job?**

HIV does not spread by normal social contact. He / she can continue to work.

**20. Can legal action be taken against an HIV infected person?**

Only if he / she deliberately tries to infect others.

## **CHAPTER VII**

### **BLOOD & BLOOD SAFETY**

Blood is an important body fluid and has many functions. It has cellular components ( 45 %) and a fluid portion called Plasma( 55%). Plasma is made up of 92% water & 8% salts and other components

#### **The components of blood are:**

1. **Red Blood Cells ( RBCs )** which contain a substance called **Hemoglobin** which gives blood its red colour. The hemoglobin, which contains Iron, carries oxygen from the lungs to each and every cell in the body. Here, oxygen is given out and the Carbon dioxide from the cell is absorbed by the hemoglobin, which is once again exchanged for oxygen when it reaches the lungs. The heart pumps blood in this cycle, non- stop through our life.

The normal hemoglobin level is between 12.5 g % and 14 g %. A drop in the hemoglobin level or total RBC count leads to Anemia. This can happen due to poor nutrition, Iron deficiency, hook worm infestation, excessive blood loss due to excess menstrual flow, multiple pregnancies, ulcers in the stomach or intestines, piles etc. and many other diseases.

Thalassemia is one such hereditary disease where the children need transfusions of Packed Red Blood cells every 3 to 4 weeks, throughout their lives.

2. **White Blood Cells ( WBCs )** - There are many different types of WBCs. The WBC system is the main component of our immune system. The main function of the WBC is to protect us from various diseases.

For example, Macrophages engulf and destroy invading organisms. The T4 Cells recognise the invaders and give the command to the rest of the immune system to attack and destroy the foreign bodies. Other WBCs produce Antibodies which attach themselves to the invading organisms and 'mark' them, so that macrophages may identify them as alien and engulf them. Some WBCs produce toxins to kill the foreign bodies.

3. **Platelets** -are necessary for blood coagulation and wound healing.

4. **Plasma** - has proteins (albumin & globulin) and many clotting Factors.

The disease called Haemophilia is caused by a deficiency in Factor VIII, and in these patients, blood does not clot unless Factor VIII injections are given or Cryoprecipitate – a component of blood is transfused (Haemophilia is hereditary, and in case of injury, bleeding is prolonged and often uninterrupted)

Patients who lose blood during surgery, childbirth, accidents, etc., and due to many other diseases where one or another component of blood is deficient, need blood or blood component transfusions to make up the deficiency.

#### **History of Blood Transfusion**

1616: First systematic work was conducted by **Dr. William Harvey** in England when he established that blood circulates in the human body.

1818: **Dr. James Blundell** (an obstetrician in England) invented an instrument for transfusing blood, and actually transfused blood from one person to a dying patient to save her life. He first propagated that only human blood could be transfused to another human being.

1901: **Dr. Karl Landsteiner** ( a pathologist in Austria ) discovered ABO Blood groups.

1914: Dr. Hustin of Belgium discovered the technique of preventing coagulation of stored blood outside the human body in a bottle with the help of Sodium citrate solution.

**1936: Dr. Norman Bethune of Canada established the first Blood Bank in the world in Barcelona, Spain, during the Spanish Civil War.**

**1940: Dr. Karl Landsteiner and Dr. Alexander Weiner discovered Rhesus factor in blood.**

### Blood donation:

The requirement for blood in our country far exceeds its availability .Every day, there are thousands of patients who need blood. They can be helped only if healthy people donate blood regularly.

- The only source of blood for transfusion is a voluntary blood donor . It cannot be substituted with animal blood, and the manufacture of artificial/ synthetic blood is still in the research stage. Even if it were possible to manufacture blood, the expenditure involved would not make it viable in India. There is no substitute for healthy voluntary blood to ensure safe blood transfusion. However, people are not willing to donate blood for a number of reasons: fear of the needle, apprehended weakness due to loss of blood, age- old superstitions, ignorance, and social taboos.
- Blood collected from professional blood sellers is substandard, with a low hemoglobin content, and might be a carrier of various blood transmittable diseases, like jaundice, malaria, syphilis and AIDS.

### **Who can donate blood :**

Any person between the ages of 18 & 60 years, over 45 kg body weight, in reasonable good health, with no major medical problems, and no history of diseases like malaria, jaundice etc. in the recent past and no history of risk behaviour, can donate blood once in 3 months. The blood donated is replenished by our bodies in 48-72 hr.

**Latest techniques have allowed for the breakdown of Whole blood into its various components, thus ensuring that one unit of blood collected goes towards helping 4 or 5 patients.**

### Blood Groups:

There are many systems for classifying different types of blood. For routine blood banking, the ABO and Rh systems are important. On the red cell membrane, organic compounds or antigens called A and B are present and the plasma contains the corresponding antibodies.

In the Rhesus monkey, there is a particular antigen on the membrane of their red cells. The presence or absence of similar antigen on human red blood cells is denoted as Rh positive and Rh negative respectively. 83% of the world population belongs to the Rh Positive type.

### **The blood groups are classified as follows:**

Antigen on RBC	Antibodies in plasma against	Blood Group
A	B	A
B	A	B
A & B	none	AB
O	A & B	O
Rh	none	Rh Positive
none	Rh	Rh Negative

### How to ensure blood safety:

When blood transfusion is required it is always desirable to transfuse blood of the same group to the recipient after a cross match test. But in an emergency, 'O' group blood may be transfused to anybody irrespective of ABO groups; people with AB blood group can receive blood from anybody for small amounts of transfusion. As such, people with those blood groups are known as universal donors and

universal recipients respectively. All Rh negative groups are rare and is found in only around 10 to 15 % of the population.

It is always safe to know one's own blood group and some people belonging to the same blood group in case of emergency requirement for blood. The blood group of a person never changes. We inherit our blood group from our parents.

It is safest to take blood from a voluntary blood donor

The blood to be transfused is tested for various blood transmittable diseases like Malaria, Syphilis Hepatitis B & C, HIV 1 & 2 etc to prevent their being transmitted to the patients.

### **Organ Donation:**

#### **Did you know people can donate their organs also?**

Actually what they do is 'pledge' to donate their organs in the event of brain death and give a written promise to do so to any organ donor association. E.g. There is one such organization in Karnataka called FORTE (Foundation for Organ Retrieval and Transplant Education)

#### **What is brain death?**

When a person has a head injury due to accident or some other reasons the patient is hooked on to an equipment like ventilator because their own organs are not able to function. Once the ventilator is disconnected within hours all organs will stop functioning.

#### **Do you know which organs can be donated?**

Eyes (actually the cornea) can be donated by anyone after death.

But heart, liver, kidneys and pancreas, can be donated only after brain death.

#### **Anticipated Questions from the Students:**

##### **1. Blood may not be donated before 18 years. Why?**

Physiologically, it is possible to donate blood at 17 years of age if the other conditions are satisfied. the lower age limit of 18 years is legal in nature, 18 being the age of consent in our country.

##### **2. Can a person donate blood after 60 years if he / she is physically fit?**

Yes, there is nothing wrong from a medical point of view.

##### **3. Can one donate blood if one's body weight is less than 45 kg.?**

This is not desirable. But in an emergency, a marginal difference in weight (1 to 2 kg.) is not harmful, as long as the volume of donated blood is proportionately less.

##### **4. Why is blood not collected from a person with a hemoglobin content of less than 12.5 gm / 100 ml.?**

The stipulated hemoglobin content of 12.5 gm. / 100 ml. for a donor is the standard for a healthy person. Persons having less Hb content than the stipulated level are anemic therefore cannot donate.

##### **5. Why is there a stipulation of a three month period between two donation ?**

The blood is replenished within 48 hours of donation, but three months is the period it may take to replenish the iron stores in the body.

##### **6. What physical tests are performed before blood donation?**

- a. Weight
- b. Blood pressure
- c. Hemoglobin level and pulse.

##### **7. What laboratory tests are conducted on each unit of blood collected?**

Blood group and tests for Hepatitis B &C, HIV 1& 2, and STDs (syphilis)

**8. Blood is collected from a vein, naturally rich in carbon dioxide content. What purpose does this serve ? Why is blood not collected from an artery which is rich in Oxygen?**  
Although blood collected from the vein is rich in Carbon dioxide, when transfused to the recipient it is automatically oxygenated in the course of normal circulation, and therefore serves its required purpose. Blood is not collected from the arteries because blood pressure in the veins is lower than that found in the arteries. Puncture of an artery will cause bleeding at a greater velocity due to the high pressure, making the stoppage of blood flow very difficult.

**9. Is there any chance of contracting blood transmittable diseases by donating blood ?**  
No, because disposable needles and blood bags are used to draw blood from the donor.

**10. How long can blood be preserved in a blood bank?**

Whole blood and packed cells - 35 days from date of collection.

Fresh Frozen Plasma - 1 year

Platelets - 3 days

Cryo Poor Plasma - 5 years

Cryoprecipitate - 1 year.

**11. Science journals speak about artificial blood. What is it? Can it be used for transfusion as a substitute for human blood ?**

Research in this area is in the preliminary stages. The term artificial blood is a misnomer as blood has various functions. The so called 'artificial' blood can only carry oxygen to the cells and bring back Carbon dioxide in a limited way, but cannot perform any other functions at all and is also very expensive.

**12. Why does blood clot outside the body but remain uncoagulated inside the body?**

Heparin and other such chemicals naturally secreted in ones body prevents blood from coagulating inside the body. When tissues are torn, resulting in bleeding, a series of reactions take place, with the help of platelets, fibrinogen and various clotting factors creating a fine mesh of fibres and thereby clot formation.

## **CHAPTER VIII**

# **SUBSTANCE ABUSE**

### **What is a Drug?**

When a synthesized or naturally occurring substance is used primarily to bring about a change in some existing process or state (physiological, psychological or biochemical) it can be called a “drug”.

When drugs are used to cure an illness, prevent a disease or improve the health condition, it is termed “drug use”.

### **What is Drug Abuse?**

When drugs are taken for reasons other than medical, i.e. wrong use, too much, too often, too long or in a wrong combination with certain other drugs to enhance the overall effect, it becomes “drug abuse”.

**Any type of drug can be abused. Drugs with medical uses can also be abused**

Illegal drugs like brown sugar and ganja have no medical use at all. With these drugs, there is no “drug use”. To use them is to abuse them.

**Drug abuse leads to drug addiction with the development of tolerance and dependence.**

**Tolerance** is a condition where the user needs more and more of the drug to experience the same effect. Smaller quantities, which were sufficient earlier, are no longer effective and the user is forced to increase the amount of drug intake.

**Psychological Dependence** is a state characterized by emotional and mental preoccupation with the effects of the drug and by a persistent craving for it. When psychological dependence develops, the user gets mentally ‘hooked on’ to the drug.

When **Physical Dependence** develops, the user’s body becomes totally dependent on the drug. With prolonged use, the body becomes so used to functioning under the influence of the drug, that it is able to function normally only if the drug is present.

After the user becomes dependent, if the intake of drugs is abruptly stopped, **Withdrawal Symptoms** occur. In a sense, the body becomes ‘confused’ and ‘protests’ against the absence of the drug. The withdrawal symptoms may range from mild discomfort to convulsions, depending on the type of drug abused. The intensity of withdrawal symptoms depends upon the type of drug abused, the amount of drug intake, and the duration of abuse.

**Addiction is a disease requiring medical and psychological treatment. Abstinence is the only method to control addiction. Treatment will help in achieving abstinence.**

### **Etiologic Factors / Causes of Substance Abuse:**

It has been found that many adolescents and young people become victims of substance abuse. Teenage drinking and drug addiction is a growing menace in our society today. There are many reasons why our young people start taking and continue to abuse alcohol and drugs. Some of them are:

To ‘belong’ with the crowd, or with peers. Peer pressure is the most important factor  
Curiosity about drugs and the effect of alcohol.

To overcome boredom by having new, thrilling experiences.

As an expression of rebellion against parents or to express independence or even hostility.

To gain improved understanding or to enhance creativity.

For relaxation.

As an escape from life’s problems.

To get sleep or relieve depression.

To forget feelings of rejection from persons on whom the addict is emotionally dependent.  
To cope with the transition to a more demanding adult role such as those involving occupational responsibilities, sexual relationships, marriage, and parenthood.  
To bear with serious physical illness.  
Availability and easy access to drugs and alcohol.

### **Effects and consequences of substance abuse:**

The most common effects of substance abuse :

Most young people who start substance abuse do not really know the risks involved. Many believe that they are strong enough to overcome its effects.

**But the reality is that abusing alcohol and drugs can cause serious problems e.g.:**

1. Tolerance & dependence.
2. Social problems: social isolation, aggressive behaviour, domestic violence, child abuse or neglect, marital discord, financial debt.
3. Academic and occupational problems due to the 'hang over' effects, attitudinal changes, apathy, lack of efficiency and accidents due to dulling of the senses
4. Family relationships suffer, as the abuser becomes indifferent to everything, except the next drink or dose of the drug.
5. Legal problems: Offenses such as theft, deception, fraud, driving offenses.
6. Psychological problems: depression, suicide attempts, phobias, anxiety, and personality changes.

### **Effect of Substance Abuse on the Family:**

The family may go through a cycle of denial, cover up, and acting as a protector and desperately try to control the abuser's behaviour by any or all means. They feel tension, anger, desperation, confusion, depression and face economic strain; social stigma and isolation as a result of the aggressive and antisocial behaviour of the abuser.

### **Problems that children of addicts face:**

The unpredictable behaviour of the parents confuses them, as the parent is tender and affectionate when sober and violent and offensive when intoxicated. Family values remain unclear and there are frequent quarrels and fights at home. Therefore the child suffers from low sense of self-esteem, feelings of guilt, behavioral problems becomes withdrawn and aloof.

### **Effects of Addiction on the Community:**

Crime and violent behaviour, accidents, & poor productivity

### **Some Facts about Drug Use in Bangalore:**

(According to studies conducted by St. John's Medical College.)

The use of drugs is steadily increasing in Bangalore

Alcohol and Cannabis ( ganja, charas ), are the most commonly used drugs

Cannabis is the 'gateway' drug; people start with cannabis and progressively move on to 'hard' drugs

Drug takers are usually young, mostly below 21 years

Alcohol, tobacco and drugs are mostly abused by males

Drug addiction is a problem among both the educated and uneducated classes.

Incidence of drug use is high among the unemployed

Addicts come from all sections of society. Material affluence is no guard against drug use. In fact, it may provide enough resources to maintain this habit.

85.7% of the addicts were from nuclear families. Lack of guidance from elders, lack of alternate parental control and support, may be promoting drug habits in children from small families.

## **Remember !**

- Drug effects are not precisely predictable. They will be influenced by:
  - ~ the amount taken;
  - ~ how much has been taken before;
  - ~ what the user expects to happen;
  - ~ the situation and company the user is in;
  - ~ the user's state of mind.

Statements about drug effects are often about what happens to most people or extreme cases. But each person is different and may react differently to any drug. Body size, sex, mental and physical condition will all make a difference.

In short there are few simple once-and-for-all statements or universal truths about drugs. True or False statements need discussion and reflection.

## **Classification of Drugs:**

Drugs that are abused may be classified into five basic groups:

- I. Narcotic Analgesics - Drugs obtained from Opium or artificial (synthetic) substitutes that produce opium-like effects.
- II. Cannabis - drugs like ganja, hashish and bhang.
- III. Depressants - drugs that slow down the activity of the brain.
- IV. Stimulants - drugs that increase the activity of the brain. ( Central Nervous System )
- V. Hallucinogens - drugs that distort the way we see, hear and feel.

DRUG	EFFECTS How long does it last ?	HOW ITS TAKEN	RISK
ANALGESICS Aspirin, Analgin, Crocin, Paracetamol Legal	Used for relief of pain. Can last for several hours.	Orally and sometimes by injection. Abusers prefer intravenous injection.	<ul style="list-style-type: none"> <li>◆ dependence and withdrawal symptoms.</li> <li>◆ hypertension,</li> <li>◆ respiratory depression leading to respiratory failure,</li> <li>◆ damage to liver and kidneys.</li> </ul>
BARBITURATES Sleeping Pills, Barbs, Downers Illegal Unless Prescribed	<ul style="list-style-type: none"> <li>~ feel relaxed, sleepy.</li> <li>~ difficulty in talking, concentrating or doing anything.</li> <li>~ liable to accidents</li> <li>~ Begins in 5- 10 min. lasts for 3- 6 hours, depending on the amount taken..</li> </ul>	Oral pills. used as tranquilizers to calm people down.	<ul style="list-style-type: none"> <li>◆ confusion.</li> <li>◆ unconsciousness,</li> <li>◆ breathing problems and death</li> <li>◆ very addictive</li> </ul>
OPIATE DRUGS Heroin; Opium; Morphine “Junk”; “Dope”; “White Powder” Illegal	<ul style="list-style-type: none"> <li>~ feel drowsy, warm, content, sleepy.</li> <li>~ Morphine is used as a very effective painkiller</li> <li>~ constipation.</li> <li>Begins quickly and can last for several hours.</li> </ul>	Oral, smoked, sniffed, or injected directly into the blood stream	<ul style="list-style-type: none"> <li>◆ highly addictive</li> <li>◆ overdose can be fatal.</li> <li>◆ withdrawal is painful - shakes, sweats, stomach cramps, vomiting, muscle pains ( lasts from 7-10 days, to months.)</li> </ul>
METHADONE - synthetic narcotic with longer lasting effects than other narcotic drugs.	<ul style="list-style-type: none"> <li>~ does not produce euphoria, but can prevent or reduce opiate withdrawal discomfort.</li> <li>~ 24 - 36 hours.</li> </ul>	Oral / subcutaneous injection. Abusers prefer intravenous injection.	<ul style="list-style-type: none"> <li>◆ powerful physical and psychological dependence</li> <li>◆ constipation, excess sweating, menstrual</li> </ul>

Illegal Unless Prescribed			irregularity, urinary retention, sleep disturbance, respiratory impairment.
<b>COCAINE</b> “Coke”; “Snow”; “Charlie”; “Crack”. Illegal	~ feel very strong, alert, confident, no hunger, and can work faster and harder for a short while. Later, as it wears off - become tired, hungry and depressed. ~ starts within min., peaks in 15-30 min. and wears away very quickly.	Sniffed or “snorted” up the nose, or injected directly into the bloodstream.	<ul style="list-style-type: none"> <li>◆ damage to the nasal passage.</li> <li>◆ risk of infection via injection</li> <li>◆ lack of sleep and poor nutrition.</li> <li>◆ a sensation of something crawling under the skin “cocaine bugs”</li> <li>◆ mental illness.</li> </ul>
<b>AMPHETAMINES</b> Dexedrine; Benzedrine. “Uppers”; “Speed”; “Dexies”; “Jolly Beans”; “Sweets”; “Purple Hearts”. Illegal Unless Prescribed	~ feel more alert and energetic; ~ less hungry ~ sometimes panicky and anxious. recovery even from one doze takes a couple of days to and then the user feels tired, depressed and hungry.	tablets or a greyish white powder. - Usually swallowed, or sometimes sniffed or even injected.	<ul style="list-style-type: none"> <li>◆ resistance to illness is lowered</li> <li>◆ delusions and hallucinations</li> <li>◆ serious mental illness</li> <li>◆ damage to the heart</li> <li>◆ dependency</li> </ul>
<b>CAFFEINE</b> Coffee; Tea; Some Soft drinks; Chocolate; some headache pills. Legal	~ feel more awake, concentrate for a short while ~ large amounts - shaky and irritable. It works within minutes and can last for several hours.	~ tea, coffee and cola-type drinks; chocolate Sometimes as tablets n for headaches, or as pep pills.	<ul style="list-style-type: none"> <li>◆ addictive</li> <li>◆ peptic ulcers, heart disease, cancer of the kidney and bladder.</li> <li>◆ withdrawal symptoms - irritable, drowsy, bad headaches.</li> </ul>
<b>METHAQUALONE</b> Mandrax ( MX ) Illegal	~ calm, relaxed, drowsy ~ dizzy, lethargic ~ restless, anxious, exhilarated, ~ prickling or burning sensations. Begins in 15 minutes, if taken with alcohol lasts for 2 to 4 hours	~ pills.	<ul style="list-style-type: none"> <li>◆ visual disturbances, insomnia and fatigue.</li> <li>◆ mental illnesses -unstable emotion, delusions, confusion, hallucinations, disorientation, -</li> <li>◆ withdrawal may be life-threatening.</li> </ul>
<b>TRANQUILIZERS</b> Valium; Librium; Ativan. “Tranx”; “Downers” Legal Prescription drug	~ feel calm and drowsy. Begins within 10 minutes and can last for 3- 6 hours.	coloured capsules / pills - occasionally injected	<ul style="list-style-type: none"> <li>◆ Very addictive.</li> <li>◆ withdrawal - anxiety, sick feeling, headaches, and fits.</li> </ul>
<b>LSD</b> Lysergic acid “Acid”; “Big D”; “Blue Cheer”; “Hawk” Illegal	~ powerful, sometimes terrifying hallucinations ~ cannot concentrate on anything. Starts in $\frac{1}{2}$ to 1 hour, peaks in 2- 6 hours and fades out after 12 hours.	It is a liquid, a small amount is usually dropped onto blotting paper, sugar cubes or small ‘stamps’ and then swallowed. - sometimes comes as a pill.	<ul style="list-style-type: none"> <li>~ very disturbing</li> <li>~ hallucinations</li> <li>~ A ‘bad trip’ can lead to accidentally injuring / killing oneself.</li> <li>~ mental illness</li> </ul>
<b>CANNABIS</b>	~ small amounts - mild	Usually smoked, often	~ damages ability to

Marijuana; Cannabis resin; cannabis oil “Dope”; “Blow”; “Smoke”; “Weed”; “Pot”; “Grass”; “Joint”; “Reefer”; “Spliff”; “Tea”; “Bhang”. Illegal	relaxation, laughter and giggling, talkativeness, ~ large amounts - lethargic and forgetful ~ hallucinations Begins in a few min. last up to an hour.	mixed with tobacco. It can also be chewed and eaten.	memorize ~ mentally disturbed ~ accidents due to loss of co-ordination ~ lung or bronchial damage when smoked.
ALCOHOL Whisky; Gin; Vodka; Beer; Sherry; Wine; Shandy “Drink”; “Booze” Legal - to use Over 18	~ small amounts - feel relaxed and talkative ~ large amounts - slurred speech, incoordination, and eventually fall asleep. ~ begins within 5- 10 minutes and can last several hours.	~ drink.	~ damages heart, liver, stomach, brain. ~ accidental death due to overdose or choking on vomit ~ withdrawal - anxiety, sweating, trembling, delusion, hallucinations and death.
ORGANIC SOLVENTS Glue; Aerosols; Lighter Fuel; Typewriter correction fluids; Drug cleaning fluids; Nail Polish remover. Legal	~ goes directly to the brain, making one feel light - headed. Unconsciousness, death. ~ mild hangover . Begins quickly and disappears within a few minutes to $\frac{1}{2}$ hour if sniffing stops.	Sniffed through nose and mouth, sometimes from inside a plastic bag placed over the head.	~ accidental injury, or death due to choking on vomitus when unconscious, or suffocation with plastic bag. ~ the gases are very cold and can actually freeze the lungs ~ brain damage.
TOBACCO Cigarettes; Beedies; Cigars; Pipe; Paan; Chewing tobacco; Snuff Legal	~ contains tar and nicotine; produces Carbon monoxide ~ increases pulse rate and blood pressure ~ both relaxing and stimulating ~ first time - sick and dizzy. Effect is immediate and can last 10- 30 minutes.	Usually smoked, sometimes snorted or chewed.	~ quickly addictive ~ heart disease, strokes, cancer of lung, throat and mouth ~ severe withdrawal symptoms - headaches, irritability, depression.

### How to identify a Student who is on Drugs -

A student who is on drugs is likely to be secretive and hide it from adults.  
Some tell tale signs are:

- ~ sudden unexplained changes in mood and behaviour
- ~ loss of appetite
- ~ loss of interest in regular activities and hobbies
- ~ significant drop in academic / extra - curricular performance
- ~ sloppiness or carelessness about appearance
- ~ weight loss
- ~ lowering of energy and drive
- ~ absenteeism from school / college
- ~ slurred speech, confused thinking
- ~ poor short term memory
- ~ lying, cheating, stealing
- ~ preference for solitude
- ~ presence of needles, strange looking articles, packets etc.

There are many other conditions where one or more of the above symptoms may be present. But when one notices unusual changes in the student's behaviour, then one should think of drugs as being one of the possible causes.

## ALCOHOL

**Alcohol:** Medically, it is a depressant drug that slows down the brain's ability to think and to make decisions and judgments.

**1. Immediate Effects of Alcohol use:**

Alcohol is only a lot of empty calories. It has no vitamins or vital minerals. It has a depressing effect on the brain. Many users become physically dependent on it. When one drinks, alcohol is absorbed directly into the bloodstream through the walls of the stomach and the intestine. Unlike other foods, alcohol does not require digestion. Once alcohol enters the bloodstream, it circulates throughout the body. It reaches the brain and goes along with blood to every organ, including the heart, liver, and pancreas. In the liver, alcohol is detoxified & it is changed to carbon dioxide, water, and a few calories of energy. A small amount of alcohol goes out of the body through breath, urine and sweat. Depending on the amount consumed, the initial effects can be seen to be predominantly on the brain :

- a) At first, the person feels relaxed, talks freely, and may feel elated.
- b) Slowly, as he becomes intoxicated, movements become clumsy, and speech becomes slurred. Loss of judgement, unsteady gait, and blurred vision may also occur.
- c) Gradually, the person becomes more insensitive to the surroundings and slips into a coma-like stage. He may then sleep heavily and seem to be unconscious.

**2. Long- term Effects of Alcohol use:** Regular, excessive use of alcohol causes acute and chronic problems related to health, occupation, family and social relationships.

**Health Problems:**

Serious damage is done by alcohol to different systems in the body:

Gastro- Intestinal System (stomach and intestines): Increased acid secretion leading to Acidity ulcers, gastritis & cancer.

Liver: Hepatitis, jaundice and vomiting of blood due to liver cirrhosis, cancer, acute liver failure

Pancreas: pancreatic damage due to inflammation of the pancreas &, Acute pancreatitis leading to sudden death.

Central Nervous System ( brain and spinal cord ): memory disturbances, incoherent speech and actions

Cardio- Vascular System: Increased tendency to heart attacks, high blood pressure, damage to peripheral vessels, specially in the legs, leading to gangrene.

Respiratory System: depression

Skin : goose flesh, failure to maintain uniform body temperature.

Loss of appetite, under- nutrition, and vitamin deficiencies are also commonly seen mainly because alcohol replaces the calories but not the nutritive value of food.

**Alcoholism is a chronic progressive illness, which manifests itself as a disorder of behaviour.** It is characterized by the repeated & excessive drinking of alcoholic beverages.

If not treated in time, the alcoholic can die of some medical complication, accidents or suicide.

Treatment consists of detoxification (medically supervised to minimize withdrawal symptoms) & psychotherapy.

### Who is an Alcoholic?

*An Alcoholic is one whose drinking causes continuing problems in one or more areas of his life, but inspite of these problems he continues to drink.*

\*\* Relief drinking occasional then constant, increase in alcohol tolerance, first blackouts, surreptitious drinking, growing dependence, urgency of first drinks, guilt spreading, unable to bear discussion of the problem, blackout crescendo, failure of ability to stop with others (the evening really begins after you leave the party, my soul ran in the night and ceased not: my soul refused to be comforted), support excuses, grandiose and aggressive behaviour, remorse without respite, controls fail, resolutions fail, decline of other interests, avoidance of wife and friends and colleagues, work troubles, irrational resentments, inability to eat, erosion of the ordinary will, tremor and sweating, out of bed in the morning drinking, decrease in alcohol tolerance, physical deterioration, long drunks, injuries, moral deterioration, impaired and deluded thinking, low bars and witless cronies, indefinite fears (terror of the telephone, for me never mind who, menace, out of the house!) formless plans along with in capacity to initiated action, obsession with drinking, conformance to it of the entire life style, beyond alibi – system, despair, hallucinations – he knew every abyss of it.

#### **Excessive alcohol intake is responsible for:**

80 % of deaths from fire; 66 % of suicide attempts and deaths; 50 % of all murders; 40 % of pedestrian traffic accidents; 33 % of child abuse cases; 33 % of domestic accidents; 30 % of non - traffic accidents death and 19 % of drowning.

## **TOBACCO**

Tobacco smoke is a personal and environmental pollutant. Although tobacco has been used for more than 400 years, human inhalation of cigarette smoke is a 20<sup>th</sup> century phenomenon with major medical and economic consequences. In industrialized countries, cigarette smoking is a principal cause of preventable disease and premature death. In the USA & Europe, the number of smokers is decreasing. Unfortunately, in the developing countries like India, it is increasing rapidly, especially among the teenagers.

In India, snuff and chewing of paan and tobacco is very common, and is a cause of cancer of mouth, head and neck.

#### **Health Hazards**

Studies have shown that there is a strong and direct relation between cigarette smoke and health. The constituents of cigarette smoke have adverse consequences on the individual's health.

**Nicotine - is a highly toxic alkaloid that increases the user's blood pressure and heart rate. It also causes irritability of the heart muscle and blockage of the arteries. Nicotine is found in all forms of tobacco ( cigarettes, beedis, cigars, snuff, tambaku etc. )**

**Carbon monoxide -** is a toxic gas, which interferes with oxygen transport and utilization. Its adverse effects are produced by reducing the amount of available oxygen in the blood.

**Cigarette smoke and its aromatic hydrocarbon condense like Nicotine, Tar, Phenol, Cresol, Carbon monoxide, Nitrosamines and Hydrazine are all carcinogenic (cancer - causing) in nature.**

Substance	Effect
Nicotine	Stimulator
Tar	Carcinogen
Phenol	Cocarcinogen & irritant
Cresol	Cocarcinogen & irritant
Trace metal (Nickel)	Carcinogen
Carbon monoxide	Impairs oxygen transport and utilisation

Nitrasamines	Carcinogen
Hydrazine	Carcinogen

### Studies have shown that:

**The chances of a smoker's first heart attack proving to be fatal are very high.**

Smokers are prone to **cancer** of the lung,, mouth, face, larynx, oesophagus and urinary bladder.

Typical **respiratory problems** of smokers include chronic bronchitis and emphysema. Chronic cough, sputum production and breathlessness are more common in smokers. The decreased activity of the lung leads to decreased stamina and therefore poor performance in sports and other physical activities. Cigarette smoking has been associated with an increased incidence of respiratory infections and deaths from pneumonia and influenza.

Smoking during pregnancy may affect the fetus adversely. Maternal smoking is related to a high incidence of early fetal and neonatal deaths.

**Gastric and duodenal ulcers** are more prevalent among smokers than in non-smokers.

Chewing tobacco causes cancer of mouth, head, neck and oesophagus ( food pipe )

All the above problems are also seen in **Passive smokers** - non-smokers who are exposed to smoke-contaminated air, especially upper respiratory tract infections.

### Cessation of Tobacco Use:

Psychosocial forces lead to the onset of abuse, especially among teenagers. Later, drug dependency and psychological factors maintain the smoking habit. Ex-smokers usually experience prompt symptomatic improvement

**As many as 80% of the smokers would like to stop smoking.** Many self-care and organized programmes assist smokers in breaking the habit. The programmes use several techniques such as counseling, withdrawal clinics, behavioural modification and hypnosis. All smokers should be encouraged to quit.

**Ultimately, primary smoking prevention in the pediatric and adolescent age - groups may be the most effective programme.** Young people who understand the consequences of smoking to their health and who appreciate the difficulty of quitting are less likely to start smoking.

## CHAPTER IX

### FOOD & NUTRITION

Food is a basic requirement for existence, and a pre requisite for nutrition. Nutrition has been defined as food at work in the body. It includes everything that happens to food from the time that it is eaten until it is used for various functions in the body. Nutrients are components of food that are needed by the body in adequate amounts in order to grow, reproduce and lead a normal healthy life.

Most of the food and nutrition-related health disorders arise from insufficient or imbalanced intakes of foods and nutrients. The solution to the problem of malnutrition lies in ensuring that the daily diet provides the right amounts of all nutrients that the body requires in optimum proportions.

A nutritionally adequate diet should be consumed through a wise choice from a variety of foods. A diet consisting of several food groups provides all the required nutrients in proper amounts.

The main components of Nutrition are

1. carbohydrates,
2. proteins,
3. fats
4. minerals
5. vitamins
6. Water

#### Components, functions and sources of macronutrients

Components	Functions	Sources
Proteins	<ul style="list-style-type: none"><li>• Body building &amp; maintenance of body tissue</li><li>• Growth &amp; development</li><li>• Processes other nutrients.</li><li>• Regulate the nervous system.</li></ul>	<b>Vegetable sources</b> Pulses, cereals, soya, & oil seeds,  <b>Animal sources</b> Milk, cheese, egg, buttermilk, meat, liver, fish, fowl.
Carbohydrates	<ul style="list-style-type: none"><li>• Energy production</li><li>• Maintains normal blood glucose level.</li><li>• Oxidation of fats</li></ul>	Wheat ,rice, roots like sweet potato, potato, tapioca, jaggery and sugar
Fats	<ul style="list-style-type: none"><li>• Chief energy producers.</li><li>• Insulates the body</li><li>• Maintains a regular temperature.</li><li>• Provides essential fatty acids Promote absorption of fat-soluble vitamins.</li></ul>	<b>Vegetable sources</b> Oils of ground nut, mustard, coconut, vanaspati soyabean,  <b>Animal sources</b> Ghee, butter, milk, cheese, fat of meat and fish should be used in moderate proportions to reduce the risk of obesity, heart disease, stroke and cancer.

## Components, functions, sources & deficiency of micronutrients

Components	Functions	Sources	Deficiency
Vitamin A	<ul style="list-style-type: none"> <li>Required for normal vision.</li> <li>Maintains normal functioning of tissues</li> <li>Supports skeletal growth and other problem in eyes..</li> </ul>	Green leafy vegetables such as drum-stick leaves, methi, palak, fruits and vegetables like carrot, yellow pumpkin, mango and papaya.  Milk, eggs, fish, cheese, butter liver and meat	Night blindness. Severe vitamin A deficiency leads to blindness in young children
Vitamin D	<ul style="list-style-type: none"> <li>Formation of teeth and bones</li> <li>Permits normal growth</li> </ul>	Vitamin D can be obtained from fish liver oils, egg yolk, milk, butter.	Thinning of the bones both in infants and adults. (Rickets)
Vitamin E	<ul style="list-style-type: none"> <li>Permits normal growth</li> </ul>	Vegetable oils, cottonseed, sunflower seed, egg yolk, butter.	There is no indication of dietary deficiency
Vitamin K	<ul style="list-style-type: none"> <li>Stimulates the production of coagulation factors</li> </ul>	Fresh green vegetables, fruits and milk	Blood clotting is prolonged
Vitamin B	<ul style="list-style-type: none"> <li>For the utilization of carbohydrates</li> </ul>	Cereals, pulses, nuts, meat, fish eggs and milk	Causes Beriberi
Vitamin B <sub>12</sub>	<ul style="list-style-type: none"> <li>Formation of red blood cell and normal functioning of nervous system.</li> </ul>	Liver, kidney, meat, eggs, milk and cheese.  This vitamin is absent in vegetables.	Anemia
Vitamin C	<ul style="list-style-type: none"> <li>Develops immunity against diseases.</li> </ul>	Citrus fruits, tomatoes, and cabbage.	Swollen gums, teeth loss, bleeding gums.(Scurvy)

## MINERALS

Components	Functions	Sources	Deficiency
Sodium	<ul style="list-style-type: none"> <li>Maintains fluid balance &amp; helps in muscle contraction and nerve conduction.</li> </ul>	All foods contain sodium. The sodium requirements can be met with moderate salt intake.  Salt is one of the minerals and salt intake has to be restricted in case of high blood pressure and in some disorders of kidneys.	
Calcium:	<ul style="list-style-type: none"> <li>For clotting of blood.</li> <li>Structural formation of bones and teeth.</li> </ul>	Milk, curds, eggs, cheese, green vegetables, ragi and nuts are rich sources of calcium. Exercise reduces calcium loss from bones.	Osteoporosis (thinning of bones) is a problem especially in older women (postmenopausal) which may lead to fracture.,
Iodine	Formation of thyroid hormones (thyroxin) which controls all metabolic growth & development	Iodine is found in water, fish, prawns and other seafood and iodized salt.	Iodine deficiency leads to goitre. Also causes

			hypothyroidism. Iodine deficiency during pregnancy results in still births, abortions and cretinism
Iron	<ul style="list-style-type: none"> <li>For hemoglobin synthesis.</li> <li>Brain development &amp; function and body defense.</li> <li>Folic acid is essential for the synthesis of hemoglobin &amp; folic acid deficiency leads to macrocytic anemia. Folic acid supplements increase birth weight and reduce congenital anomalies.</li> </ul>	<p>Plant foods like legumes, dried fruits and green leafy vegetables contain iron.</p> <p>Iron is also obtained through meat, eggs, liver, enriched cereals, bananas, spinach, and fish and poultry products.</p> <p>Fruits rich in vitamin C like amla, guava and citrus fruits improve iron absorption from plant foods.</p>	Deficiency of iron leads to anemia. Iron deficiency is common particularly in women of reproductive age and in children

### Recommended daily intakes of protein, energy & fat

Group	Particulars	Proteins (g/kg/day)	Carbohydrates (kcals)	Fats (Energy per cent)
Infants	0-6 months	2	926	6
	6-12 months	1.6	1080	
Children	1-3 years	1.83	1220	5-6
	4-6 years	1.56	1720	
	7-9 years	1.35	2050	
Adolescents	Males	1.09	2660	5-6
	Females	1.03	2330	
Men (55 kg)		1	2800	3
Women (45 kg)		1	2200	3
Pregnant women		1.25	2485	4.5
Lactating mothers		1.5	2750	6

### Nutrition during Pregnancy & Lactation

Pregnancy & lactation are physiologically and nutritionally a highly demanding period. Extra food in increased calories as much as Fe & Folic acid supplements is required to satisfy the needs of the foetus and the suckling infant

Anemia is the commonest cause of problem during pregnancy and childbirth and also results in low birth weight, and anemia in the new born and serious complication and sometime can be fatal.

Folic acid is essential for the synthesis of hemoglobin & folic acid deficiency leads to macrocytic anaemia. Folic acid supplements increase birth weight and reduce congenital anomalies.

**Iron is needed for haemoglobin synthesis, mental function and body defense. Deficiency of iron leads to anaemia. Iron deficiency is common particularly in women of reproductive age and in children.**

Over-eating should be avoided to prevent obesity. Proper physical activity is essential to maintain desirable body weight. Slow and steady reduction in body weight is advised. Severe fasting may lead to health hazards.

Healthy and positive food concepts and cooking practices should be adopted. Cooking renders food palatable and helps in easy digestion. Faulty cooking habits leads to loss of nutrients. Cooking at high temperatures leads to destruction of nutrients and formation of harmful substances. Excess water left over after cooking should not be discarded as it contains nutrients. Cooking by steam or boiling are healthier than frying.

- **Adequate nutrition is important for the complete physical & mental growth, development & health of an individual.**
- **Lack of adequate nutrition in adolescent girls leads to malnourishment in adult women.**
- **Malnourishment in pregnant women results in complications during pregnancy, which can sometimes be fatal. It also results in low birth weight babies, physical and mental problems in children, low IQ, mental retardation & other disabilities.**

## **CHAPTER X**

### **HEALTH & SANITATION**

#### **Introduction**

The term sanitation covers the whole field of controlling the environment with a view to prevent disease and promote health. Man has already controlled a number of factors in his environment, eg, food, water, housing, clothing, sanitation. These controllable factors are those included in the “standard of living”. It is the control of these factors that has been responsible for considerable improvement in the health of the people during the past century in the developed countries.

Especially in developing countries like India, factors like open and poor drainage system, open or uncovered Dust bins, improper disposal of excreta & industrial waste, contaminated water sources, improper disposal of waste, poverty, population explosion, social customs, lack of sanitary education, and poor socio- economic conditions leads to insanitary conditions and a number of diseases.

#### **Common health hazards due to improper sanitation.**

- Soil pollution
- Water pollution
- Spreading of infections and diseases
- Contamination of food
- Propagation of flies

#### **Common diseases due to improper sanitation**

- Typhoid
- Malaria
- Cholera
- Dengue
- Diarrhoea

#### **Ways of healthy living**

- Boil drinking water and store in a closed container
- Wash vegetables before use
- Store food in clean vessels.
- Cover food to avoid contamination by flies
- Wash hands before meals
- Wash hands with soap after toileting
- Bathe regularly
- Disposal of waste material properly
- Do not allow the water to stagnate near the house
- Keep separate water tanks for animals in the villages
- Keep clean the surroundings
- Do not allow the children to play in dirty places
- Clean the bathrooms and toilets with disinfectants

## **Pathways of improving community health**

1. Promote total health of the family and give sanitary education to change the particular behaviour which affects the health
2. Proper usage of bathroom and toilets and their maintenance
3. Involvement of community to improve health facilities in their locality
4. Educating masses in the community

### **a. At the individual level**

- give awareness
- give leaflets and handouts containing importance of cleanliness
- give responsibility for each individual to keep their surroundings clean

### **b. At the village level**

- form small groups like yuvaka mandals and mahila mandals
- give special training program for women so that they can implant those things in their own houses
- arrange video shows to show how the health is affected due to not keeping the surroundings clean
- arrange health camps
- gather youngsters to repair the road, construct proper drainage by arranging shramadhanas
- discuss the activities which have already been done periodically
- awareness in schools about healthy living.

Awareness should be given to the people by keeping in mind their level of knowledge and in their own language.

## CHAPTER XI

# SOME SOCIAL, ETHICAL AND LEGAL ISSUES

### Child Sexual Abuse

There is no specific legislation in India against child sexual abuse.

It is usually dealt with under section 376 of the Indian Penal Code, which deals with rape or under section 377 IPC which criminalizes unnatural sexual offenses.

Rape in the case of an adult woman is defined as sexual intercourse with a woman against her will, without consent or with her consent when it has been obtained by subjecting her to fear of death or hurt. However as far as children are concerned there is no need to prove lack of consent. The mere act of sexual intercourse, defined under this law as penetration, is enough to constitute rape of minors.

These laws unfortunately do not include other forms of sexual abuse, whether penetrative or otherwise.

### HIV /AIDS

HIV /AIDS is not just a health problem. It is a socio-economic problem.

Its social ramifications stem from the fact that there is social stigmatization and associated guilt. It is a behavioral disorder - not just a viral disease. As Ms Bacchi Karkaria puts it - "It affects the intensely personal area of sexual relationships, making even marriage a high risk activity".

Other diseases can lead to loss in man - hours, debility and death, but do not wipe out economically active generations.

In India there is no specific legislation at present to deal with HIV / AIDS. We have rushed often to enact laws to deal with problems and our experience has shown that specific legislation are often incapable of dealing with all dimension of the issue. We should be careful how we approach this or any other problem.

*There can be several approaches to deal with various issues:*

The **prescriptive / isolationist approach** is coercive, criminalizes and punishes noncompliance and target groups (example sex workers and drug users), makes testing compulsory and provides for discrimination and isolation. This approach has not worked in India or anywhere else in the world. Example The Goa Public Health Act amendment had led to the isolation and virtual imprisonment of Dominic D'souza who was HIV positive. This act was challenged and Dominic was later released.

It is better therefore to use the **Protective Human Rights approach** which is non discriminatory and can deal positively with issues such as decriminalization of certain behaviour like commercial sex work, homosexuality etc.

The **Instrumental model** is an even better approach where law plays a proactive role seeking to change social values and patterns that create vulnerability to HIV infection.

**Though there is specific legislation for HIV / AIDS there are existing laws which can be applied if and when required. These are:**

- I) Articles 14, 15, 16, 19 and 21 of the **Constitution of India** - dealing with fundamental rights and provides for equality, equal opportunity, freedom of speech, and prohibiting discrimination etc.
- Articles 38, 39, 41, 42, and 47 dealing with **directive principles of state policy** to promote welfare of the people and provide for education, basic living conditions, employment etc.
- II) Statutes like public health act, epidemic diseases act etc.
- III) Rules and Regulations made by administration, customary law (practice that has existed from time immemorial) precedents (tax laws, judicial interpretation).

## HIV and LAW:

1) A person who knowingly transmitted HIV infection to another is liable for criminal prosecution.

2) **Notification:**

- ◆ There is only one law, which provides for the notification of AIDS - Section 51 of the Goa Public Health Act.
- ◆ Local Municipal Law requires every medical practitioner who treats or becomes cognizant of the existence of any dangerous disease to give information of the same to the executive Health Officer.
- ◆ The age and sex of an HIV / AIDS patient is given to the health authorities for epidemiological (statistical data) purpose. Other confidential matter like name, address etc are not revealed.

3) **Testing:**

The National and International policy of testing only after informed consent is accepted, which should be supported by counseling services.

4) **Confidentiality and Right to privacy:**

No specific statute providing for medical confidentiality in India.

Common Law doctrine therefore becomes applicable and since the relationship between doctor and patient is a fiduciary relationship - patient has reposed trust in his / her doctor. Therefore, the doctor requires maintaining the confidentiality of the information revealed by the patient.

5) **Partner Notification:** The same principle is applicable with even with the spouse / sexual partner of the HIV + ve person and therefore the doctor cannot disclose about his / her HIV status. However the doctor can counsel the patient to reveal the HIV status to the spouse.

6) **Discrimination at the work place:**

In a vast majority of occupations and occupational settings, work does not involve a risk of acquiring or transmitting HIV between workers. Hence workers with HIV infection who are healthy and have the required skill for the specific jobs should be treated as any other worker and the workers with related illness including AIDS should be treated as any other worker with an illness or disability.

But when the work involves the possibility of transmission example health care / first aid workers, he /she should be given an alternative area, example clerical or administration where there is no risk of transmission to others. The person living with HIV/AIDS should be protected from discrimination, stigmatization, at the work place.

It is necessary to take precautions to reduce risk of transmission of HIV at the work place by the blood borne route.

Mandatory testing for HIV/AIDS is considered inappropriate. However an employee is requested to be medically fit to carry on his / her employment, hence they are subjected to regular medical fitness testing. Under this general requirement of medical fitness, employer may test employees for HIV/AIDS. There is no clear cut policy being followed in this regard. At the moment, defence personnel and people seeking overseas employment especially in gulf countries are subjected to compulsory HIV/AIDS testing. The Bonibay High Court has recently held that the medical fitness of a person should correlate with job requirement. Governmental Institution cannot discriminate in the matter of employment

7) **Treatment:** All doctors have a duty to treat the patient but there are innumerable cases, where doctors have refused to treat HIV/AIDS patients. There is no specific statute / rule / regulation obliging the doctors to treat HIV patient.

Supreme Court has held that a doctor in government hospitals have an absolute duty to treat a patient (Parmanand Kataria Vs Union of India)

8) **Blood banking:**

Drug Control Rules and Regulations have made testing for HIV 1 and 2 mandatory for every unit of blood before issue. Only licensed blood banks are allowed to collect, process and dispense blood. The Blood Banks should keep records of testing etc for more than 10 years to safeguard against litigations.

### **9) Marriage and divorce:**

There is no specific law covering this issue.

### **10 Insurance:**

Ideally Insurance policy / scheme should not deprive HIV/AIDS persons of the benefits of the scheme. However, if the companies are doing so it can be challenged in the Court on the basis that it is discriminatory.

## **Homosexual and Law**

Section 377 of the Indian Penal code has criminalised this behaviour and has classified it to be unnatural offenses. It provides as follows:

"Whoever voluntarily has carnal intercourse against the order of nature with any man, woman or animal is punishable with imprisonment for life or ten years with or without fine"

## **Sex workers and law:**

Immoral Traffic (Prevention) Act, 1956 deals with sex workers.

Prostitution itself is not an offense and it does not prohibit or legalize prostitution. But it focuses on institutions and brothels - carrying on prostitution in a public place, abetting prostitution, soliciting or seducing for the purpose of prostitution, brothel keeping, living off an earnings of a prostituted women are all punishable offenses.

Child prostitution is prohibited and attracts severe penalty.

## **Drugs and Law:**

The Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985 regulates as well as prohibits certain operations viz., cultivation, production, manufacture, possession, sale, purchase, transport, warehousing, consumption, inter state movement, import - export out of India and transshipment of drugs and narcotics substance.

It provides for presumption that the accused if he is found to be in possession of drugs / psychotropic substance that he has committed the offense.

## **Criminal Law:**

### **Transmission offenses**

There are no specific offenses for transmitting HIV. However, a large number of offenses ranging from murder & hurt, to nuisance may be attracted depending on the facts and circumstances of the case. As transmission of HIV may cause death or hurt (grievous or simple), transmitting HIV with intention of causing death or hurt, or with the knowledge that it is likely to cause death or hurt, may attract the offense of murder (sec 302, Indian Penal code), voluntarily causing hurt ( Sec 323, Indian Penal code) or causing grievous hurt ( sec 325, Indian Penal code). On the other hand, if the transmission is caused rashly and / or negligently, another set of offenses may be attracted, viz., section 304A, 336, and 338 Indian Penal code. Moreover, under section 133, code of criminal procedure (for removal of nuisance), any person conducting any trade or occupation injurious to the health of the community can be prohibited from doing so by an order of a magistrate.

## **Women and HIV:**

Woman as a group require a special attention while dealing with HIV / AIDS issues, because the current preventive strategies offer very little protection from the risk of HIV infection for women.

The preventive strategies are- a) Monogamy and Fidelity, b) Safe sexual practices and c) Reducing the number of sexual partners.

Unfortunately all of them depend on the male partners and women have little or no role to play.

## **CHAPTER XII**

### **VALUES & LIFE SKILLS**

**Life skills** are abilities for adaptive and positive behaviour, that enable us to deal effectively with the demands and challenges of everyday life. They enable us to translate knowledge, attitudes and **values** into actual abilities - 'what to do and how to do'. The list below enumerates a core set of important values and life skills.

#### **Self – esteem**

Self - esteem is essentially a measure of self - worth and importance. When this assessment of ourselves is level - headed, reasonable, and positive, we develop a strong sense of self- esteem.

Self- esteem is an important part of the personality that should be shaped from the very early years.

During childhood, if an individual's feelings are respected, thoughts valued and abilities recognized, the child's self - esteem is strengthened.

When feelings are trampled upon (I don't care what you think / want), thoughts belittled (what a lousy idea!), the child's self- esteem remains at a low point of development and stays weak.

Individuals with a **strong self- esteem** are able to act towards others in non - threatening ways, build healthy relationships and find themselves successful. They are:

more effective learners

dynamic

show healthy growth and development

form satisfactory relationships

show responsible behaviour

have positive mental health

are more confident and ambitious

are more likely to succeed

have feelings of being valued and worthwhile

have a constant image of their own distinctiveness as people

know their own capabilities

are active members of social groups

function effectively and with personal satisfaction

have a high resistance to pressures to conform ( e.g. to peers, to the media, etc. ).

#### **Individuals with low self - esteem:**

are less able to resist pressures to conform

are less capable of responding to others

have feelings of isolation

feel unable to control their personal life or to make decisions or to have any personal power

are more likely to smoke, and abuse alcohol and other drugs

cause themselves to be thought unworthy by others and so feel that others don't respect / esteem them.

#### **Factors which affect Self - esteem:**

Our self-concept and self-esteem start to develop very early on in life. They are formed out of our observation of:

- (i) our own behaviour - how we cope with situations, our successes and failures;
- (ii) how other people significant to us, behave towards us (parents, teachers, close community );
- (iii) the way we believe that others see us.

## **Self - esteem vs. Health & Drug Education:**

changing this particular value might be one of the single most effective health education measures at our disposal  
education programs on health, substance abuse etc. must aim to enhance self- esteem and life skills and must be sensitive to locality, ability and culture.

### **Self Esteem can be increased by:**

a history of success ( nothing succeeds like success )  
receiving respect, acceptance and concerned treatment from 'significant' others;  
an accepting, considerate school/ classroom ethos;  
improved student - staff relationships;  
certain types of teaching methods ( group work, active tutorial work etc. )  
developing social and life skills.

**What is an attitude - Your state of mind - when you approach a situation**

**The same you with  
a positive attitude**



**Faith - 'i will do my best'  
Alertness - 'i will concentrate and be careful'  
Willingness - 'i will fix it now'**

**Carelessness - 'it doesn't matter'  
Ignorance - 'i didn't know it would explode'  
Fatalism - 'if it happens - it happens'**



**Cynicism - 'safety is kid's stuff'  
Recklessness - 'danger is the spice of life'  
Laziness - 'it is too much trouble'  
Overconfidence - 'i never get hurt'**

### **Attitude affects**

**How you look, what you say and what you do  
How you feel both physically & mentally  
How successful you are in achieving your purposes in life  
Your personal health and safety depends on your attitude**

## **Self Esteem forms the basis for the following life skills:**

### **Autonomy**

- The words autonomy, self efficacy and locus of control are all terms which involve the individual making his or her own decisions, feeling that they are responsible for their own actions, that their own behaviour produces a particular outcome and that control is internal and not due to outside forces ( e.g. fate ).

**Self - empowerment** is a process by which a person takes a greater charge of his / her self and of their lives and comes to believe that they are responsible for their own actions. Self- empowerment means that we can decide which path we choose to travel along. It can be enhanced by developing powers of Awareness (of ourselves and others), by having attainable goals in life, by developing a set of freely chosen values which are acted upon, by developing life and social skills and by having a certain amount of information (or the knowledge of where to find information). By helping young people to develop these five areas we can assist them to gain self- empowerment and the freedom and ability to choose their own way of life.

Peer pressure is seen as one of the factors which induces young people to start drinking alcohol, smoking, or taking cannabis or narcotics, having unsafe sex, and other such irresponsible behavior.

### **Resisting Peer Pressure:**

Students can be taught to be more capable of resisting peer pressure if we can enhance their self esteem & increase their self empowerment. Young people's concept of peer pressure is not a direct overt coercion, but a more subtle force involved with meeting certain desirable image characteristics. There is pressure to appear independent, to be recognized, to appear mature and grown up and to have fun. Skills learning enhances the sense of independence and security and helps resist social pressures. Young people can be helped to recognize the nature of pressures, to develop a better understanding of alternative ways to achieve aspirations and become better prepared to resist pressures to participate in health deprecating behaviour.

### **Harnessing Peer Pressure:**

Developing positive peer pressure can help. By getting young people to work together and help and encourage each other, through group work and extending their interpersonal relationships, they can learn to support each other in achieving alternative lifestyles to drugs and other risk behaviours.

### **Assertive Behaviour**

Assertiveness is the ability to express clearly and assertively one's opinions, beliefs etc. giving the other's opinions and feelings due consideration.

Assertiveness is about saying what you want or would prefer without using force or coercion. It involves not feeling anxious about having to tell people what is important to you. Assertive behaviour is a communication skill based on the expression of thoughts and feelings. Assertiveness is not the same as aggression as it does not involve hurting other people's feelings or losing one's temper, or getting one's way despite the other person's needs. Again self- esteem plus confidence and a positive outlook on life help us to be assertive. In turn this helps us to feel confident and happy and increase our self- esteem. Being assertive can help young people to resist peer pressures. Assertive behaviour is important, for e.g., to resist pressure to do potentially health damaging activities (both physical and emotional).

**The verb 'assert' means, to state or affirm positively, assuredly, plainly and strongly.**  
Each one of us can think and act in three different ways, and the characteristics which dominate each personality type are given in the following table:

	<b>Passive</b>	<b>Aggressive</b>	<b>Assertive</b>
<b>Behaviour</b>	Doesn't stand up for one's rights Puts oneself down and is always apologetic about feelings, needs and opinions	Stands up for one's rights but violates others rights Puts down others, ignores or dismisses feelings, needs and opinions of others. Expresses oneself in a rude manner	Stands up for one's rights in such a way as to not violate others' rights Expresses needs, opinions and feelings in direct, honest and appropriate ways.
<b>Attitude</b>		I'm okay, you're not okay Thinks that one's needs are more important than others' Thinks that others don't have rights Thinks that others don't have anything to contribute	I'm okay, you're okay Thinks that everyone has their own needs Thinks that one has one's own rights, others also have theirs Thinks that everyone has something to contribute
<b>Feelings</b>	Feels helpless, frustrated and angry with oneself and resentful towards others	May feel good because one has won, but feels remorse, guilt and self-hatred because of hurting others	
<b>Aim</b>	To avoid conflict - pleases others at any expense	To win at all costs - even at the expense of others	Maintain self respect

**People lack assertiveness because of one or more of the following reasons:**

- low self esteem
- fear of rejection
- inadequacy
- guilt

**The types of assertive responses that need to be developed in a passive/aggressive individual are -**  
**Non - Verbal:**

- making adequate eye contact is very important- the child should learn to look people in the eye.
- talking in a loud, clear voice so as to be heard by others.
- maintaining an adequate, comfortable, erect body posture
- using 'facial talk', which involves practicing facial expressions that normally go with different emotions
- using appropriate natural gestures.

#### **Verbal**

- use 'feeling talk', which involves practice in expressing any feeling literally
- practice expressing one's own opinion when others disagree
- practice the use of 'I' in situations like admitting a mistake or accepting responsibility
- practice accepting and giving compliments.

## **How can we learn to be assertive?**

Assertiveness training is an educational experience which promotes self confidence. It helps individuals to analyze problematic situations and offers techniques for the development of more effective behaviour. There are different ways, like behavioral rehearsal, modeling or role playing by which we can be assertive, and if we have practiced it beforehand, it becomes even easier to be assertive. The aim of all this assertiveness skills training is:

- (1) to make individuals ask for what they want, say what they want, and express their real feelings appropriately;
- (2) to realise the difference between passive, assertive and aggressive behaviour.

Most people have difficulty in forming an assertive response in a tense, emotionally charged situation, especially if it is suddenly thrust on them. They do not know how to say "No" or "Yes" even when the situation warrants it. It is for this reason, that assertiveness practice or "behavioural rehearsal" helps in assertiveness training. Through behavioural or role rehearsal, ( i.e. the practicing of the desired behaviour ) a person knows what exactly has to be done when confronted with the new situation.

It is sometimes difficult to develop an assertive response immediately when the situation calls for it, especially if the emotions aroused are strong or the consequences are serious. In such cases, it is better to postpone a reaction or reply, while at the same time expressing emotions that are felt, later on. Modelling has also been used as a behaviour change technique. As it is usually practiced, the individual is exposed to a live or filmed model ( another person who models or shows how one should act ) who engages in the behaviour that is desirable for the individual to develop. Assertive skills may also be taught through working in groups.

## **Decision Making**

This skill helps us deal constructively with decisions about our lives (to weigh all options at hand and the effect of each before coming to a final decision)

It gives us the ability to analyze information and experiences in an objective manner.

It helps us recognize and assess the factors that influence attitudes and behaviour.

a) Responsible v/s Risk behaviour b) Peer pressure, Media and other factors influencing decision-making.

**Decision making involves :** a) Knowing the difference between wants and needs.

b) Recognizing that rights go hand in hand with responsibilities and this includes responsibilities for others as well as social responsibility.

## **Problem - Solving**

Helps us deal constructively with problems in our lives. It involves :

Identifying needs

Defining the problem

Identify possible solutions

Evaluate these and decide on the best option

Follow up on the outcome

Re-evaluate and change if necessary

## **Interpersonal relationship skills**

Help us relate in positive ways with the people we interact with

**Empathy:** the ability to imagine what life is like for another person, even in a situation that we may not be familiar with. The ability to " feel with " the person as against " feel for "( sympathy) Avoiding prejudice and discrimination of people who differ Caring about people with problems

**Coping with stress:** recognizing the source of stress in our lives, recognizing how this effects us, and acting

in ways that help to control our levels of stress.

**Effective communication:** the ability to express ourselves, both verbally and non-verbally, in ways that are appropriate to our cultures and situations.

### **'Encouragers' of Communication:**

**Non Verbal:** Nodding one's head

**Verbal:** "Yes"; "I see"; "Go on, please"; "Mm-hmm", etc.

**Attending Skills:** Eye Contact ~ Body Language ~ Gestures ~ Facial Expression ~ Vocal Qualities  
(Speed, volume, pitch, variety, verbal underlining) ~ Silence.

Three skills which most people need to continue to improve are listening actively, giving feedback, and showing empathy (showing you understand how the other person feels or what his/ her point of view is)

### **Listening well**

To listen well so that you really hear and understand what another person is saying means that you:

focus on the person with direct eye contact ( looking into people's eyes )

do not interrupt

do not cut in to describe your experience

do not give your attention to outside disruptions ( other people or events )

are comfortable with silence.

### **Giving feedback**

To give feedback to another person means you comment on the person's statements, behaviour or performance. When you do this, you show the other person that you are listening and care about what he/ she has said or done.

#### **DO-**

ask questions to show you are interested in the person ( e.g. "How do you feel about that? " )

be sincere, caring and understanding

use verbal encouragement ( such as "What happened then? " )

use nonverbal encouragement ( such as nodding your head )

ask questions to make the situation clearer ( if necessary )

summarize the person's points and feelings

#### **DO NOT-**

judge the person

comment on things that cannot be changed

interrupt too early to give feedback.

## **Fighting Stereotype**

Before they are two years old, children are aware of racial / caste differences. Value judgements may be attached by age three. Between the ages of 4 and 6, they show gender stereotyped behaviors, and may reject children who differ from themselves in terms of race, caste or physical disability. By the age of 10, students hold stereotypes about persons from far- away countries.

### **Some important terms defined:**

**Prejudice:** is a negative personal attitude or opinion about a person or group, which is not necessarily based on knowledge of that person, or group.

**Stereotype:** An oversimplified, generalized attitude about a group of people is a stereotype. Stereotypes are often, but not always, negative. They may be based on prejudice; they may also be derived from contact with one member of a group, if an impression of that person is assumed to be true for all that belonging to that group.

**Racism:** Racism describes attitudes, actions, or institutional practices based on the assumption that certain people have the right to power over others solely because of their color. Racism has been described as 'prejudice plus power'.

\* In India, the emphasis is more on CASTE than it is on color/ race. Stress must not be laid on CASTEISM.

**Sexism:** Attitudes, actions, or institutional practices which subordinate people because of their sex are sexist. While racism and sexism are widely known types of social oppression, groups of people are also discriminated against on the basis of age, class, occupation, caste, religion, and income and physical ability.

**VALUE:** Gender Equality; Awareness of gender inequalities in society; economic issues and gender-based roles - Gender roles/ subliminal messages; Stereotyping.

**Gender:** refers to the socially determined personal and psychological characteristics associated with being male or female, viz. masculinity and femininity.

**Gender Roles:** they tell you what society expects you to do or not do because you are male or female.

**Gender Stereotype:** is any biased generalization according to which people are wrongly assigned traits they do not possess, and extends the stereotype not only to personality traits, but to all spheres of activity.

**Gender Exploitation:** when the sex of the individual is reiterated and used to promote products/ ideas in a gender- irrelevant situation.

These examples may be blatant and offensive or carry subliminal messages of gender bias and stereotyping etc. e.g. female models used to sell men's shirts; coffee ads'; the 'macho/ complete' man used to sell cigarettes.

**Gender inequality and discrimination because of gender especially against females is the most reason why many atrocities are committed including female infanticide, sexual abuse dowry harassment and discrimination at work etc It is therefore important that gender stereotyping as well as other stereotyping should be dealt with at the earliest.**

#### Teaching about images and perceptions - Aims & Objectives

Knowledge	Skills	Attitudes
Knowledge of one's own culture, heritage and worldview.	Being able to detect biases, stereotypes and egocentric attitudes - one's own and others'.	Positive valuing of cultural diversity, alternative points of view, equality & justice.
Knowledge of the cultures of others, in one's own community & in different parts of the world.	Ability to perceive differing perspectives in speech, print, & audiovisual media.	Respect & openness towards those who may appear to be different.
Understanding that worldviews are not internationally shared, & that different perspectives have their own logic & validity.	Ability to think critically about images & information received from a variety of sources.	Appreciation of the commonalities which exist between peoples.
Knowledge of the common stereotypes about others which exist in one's own culture.	Ability to use knowledge & imagination to develop insight into the ways of life, attitudes and beliefs of others.	A thoughtful & informed skepticism about images that are presented in text and media.
Understanding the sources of these stereotypes.	Ability to challenge stereotyping when encountered in the media, in institutional practices, or in interactions with individuals and groups.	A willingness to find out more information about the images one is presented with.
Knowing about techniques used in print & visual media to create, alter, or manipulate images.		









